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NEWER METHODS FOR FURTHER INCREASING THE SAFETY OF SURGICAL OPERATIONS *

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For purposes of this paper, I shall divide surgical operations into two general classes: first, operations performed on patients in fair general health; second, injury or disease. Belonging to the first class are: laparotomies for benign tumors of the uterus and ovaries, simple gastro-enterostomies, appendectomies, unoperations on patients whose vitality is impaired by complicated operations on the gall-bladder, the kidneys and the urinary bladder, uncomplicated herniotomies, excision of cancer of the breast, excision of benign tumors of the thyroid and simple goiters; in these the operative mortality has all but disappeared. Among 10,723 surgical operations performed by me, 4,127 belonged to this class; among these there was one death in 375 operations. There is but little advantage, therefore, in any discussion of this group of cases so far as the immediate risk is concerned; but while the immediate risk is slight, these operations still bear a certain stigma, viz., a temporary nervous impairment following the operation. Indeed, it is an unpleasant surprise to realize to what extent the public has come to expect that it will require a number of months for complete nervous recovery from the effects of even a simple operation. This, however, does not apply to all types of patients, for there is a vast difference between the woman accustomed to hardships, who, for example, returns to the factory several weeks after delivery, and the woman weakened by protection, whose nervous reactions have been heightened by training and education, and who may require a year or more for her recovery from an operation or a confinement.

Bluntly, and too frequently, has surgery said in effect to these women: "I have successfully performed your operation; if you have allowed yourself to think it an ordeal and your nerves have become shaken, it is because you are a neurasthenic and I leave you to make the best of it."

I shall, I hope, later show that there is a physical basis for such disability, that the surgeon is responsible for it, and that these evil consequences may be almost wholly avoided. While the sturdy patient will get on quite well under present methods, she, too, will appreciate a mitigation of the harshness of surgery.

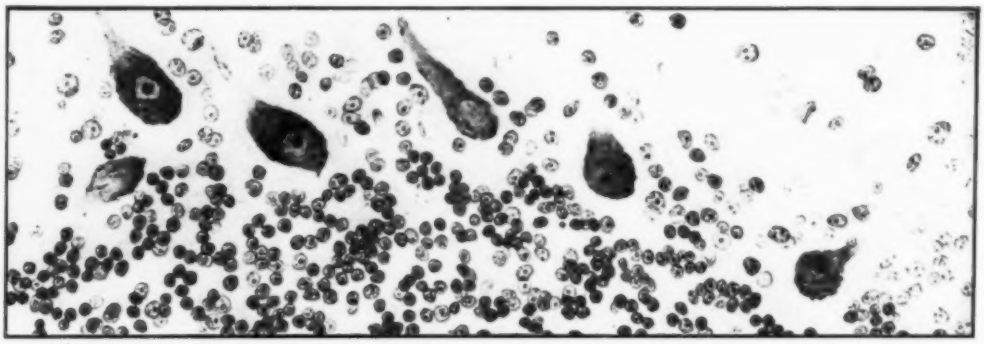

Fig. 1.—Area from cerebellum. Fracture of the skull. The differential Purkinje cell-count showed: active cells, 53 per cent.; fatigued cells, 40 per cent.; exhausted cells, 7 per cent. The patient, a young man, died three hours and twenty-five minutes after receiving his injury. Compare the physical condition of the brain cells in this case of comparatively sudden death in a normal subject with the brain cells of the case of exophthalmic goiter, acute septicemia and that of extensive cancer. From an area like the one portrayed it would be thought the cerebellum was in good condition, but this is disproved by the actual findings in 100 cells.

We turn now to the handicapped patient—the patient whose surgical chances are impaired by acute infections or by hemorrhages, by fractures of the skull and by penetrating gunshot wounds, by acute intestinal obstructions, by stab wounds, by the numerous industrial accidents, by perforative peritonitis—and we turn to the long list of the dangerously ill or dying that are daily brought to the hospital, for it is from these that the lists of mortality in the general hospitals in the city are mainly recruited. These impaired surgical risks resemble each other in one important particular; that is, they all exhibit an impairment of their vitality. Has this impairment a

* Chairman's address before the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

physical basis? We believe that there is as truly a physical basis as there is a physical basis for nephritis or for a fracture. Now the source of the vital force is the cells of the central nervous system, and it is here that we must search for physical changes which are responsible for the decrease in the vital force. Space will permit only of a summary of an extensive research by my former associate, Dr. D. H. Dolly, my present associates, Drs. H. G. Sloan, J. B. Austin, M. L. Menten, and myself, and the clinical researches by my associate, Dr. W. E. Lower. We investigated the alterations in the brain-cells in fatigue, in anemia from hemorrhage, in physical injury, in pyogenic infection, in certain drug poisons, in the primitive emotions and in exophthalmic goiter. As this work has been in part published and an extended publication of the remainder is now under way, I will introduce some typical pictures from a mass of material which will illustrate the changes in the nerve cells in the foregoing types of impairment of the vital force, and hence an impairment of the surgical risk. The alteration in the distribution and the quantity of the Nissl substance, the change in the size relation of the nucleus and the cell body, the rupture of the membrane covering the cell and the nucleus, and the change in the gross size of the cell, all point to physical changes as the cause of the functional impairment. It matters not whether the substance within the cell that produces nervous energy is used up by excessive activity, or whether there is failure to replace the amount used up on account of hemorrhage or starvation, whether the nerve power generating substance is destroyed by a toxin or a poison, the physical changes in the cell are always seen and are apparently proportional to the extent of the loss of vital force. In a painstaking study of the cells of a large number of normal controls, no similar changes were found.

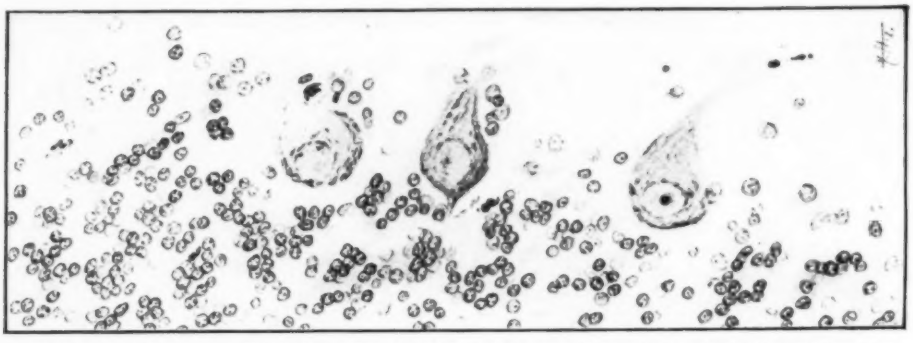

Fig. 2.—Area from cerebellum. Exophthalmic goiter. The average differential Purkinje cell-count from five cases (of which this was one) was: active cells, 34.2 per cent.; fatigued cells, 37.6 per cent.; exhausted cells, 28.2 per cent. The figures represent the typical appearance of the Purkinje cells in all of these cases.

Now, no one more than the operating surgeon is aware of the fact that severe infections, hemorrhages, exhaustion from physical exertion, exophthalmic goiter, surgical shock, and overwhelming emotions, are the common predisposing causes of surgical deaths. In every one of these states there is impairment of the vitality of the patient. An operation that would present virtually no risk in the uncomplicated case may readily prove fatal in any one of these handicapped cases; for example, the amputation of a leg mangled by a crushing accident as compared with the amputation of a leg for tumor; operation in diffuse peritonitis as compared with interval appendix; operation in the presence of overwhelming fear and worry as compared with tranquillity: laparotomy in a patient exsanguinated as compared with a similar operation with normal blood-volume; an explosive half-dying case of exophthalmic goiter as compared with a quiet colloid goiter. What then are the factors in the technic of a surgical operation that may further impair the brain cells and thus be the last straw? The leading factors are fear, traumatic impulses set up in the course of the operation, and the impairment of the immunity of the patient by *ether* anesthesia. In a close risk in cases of acute infection, the impairment in the immunity by *ether* without any operative procedure might easily dispatch the patient. Common experience has taught all of us, and our researches have shown that fear alone may cause grave physical injury, even death. In practical surgery our problem is this: Can we exclude fear? Is there an innocuous substitute for ether anesthesia, and can we prevent the nerve impulses set up by the cutting and handling of tissue from reaching the brain? And finally, when the nerve impulses cannot be blocked, can we prevent the stimulated brain cells from using up their highly dischargeable substance?

First.—The ravages of fear can be avoided by a combination of special consideration on the part of the nursing and the operating staffs, and by the preliminary administration in suitable cases of small doses of morphin and scopolamin. Fear is stronger than the will, hence it must be controlled by the assistance of influences outside of the body. Requiring a patient unprotected to stare death in the face at the time of the operation is like inspecting a photographic film in the sunlight and expecting to find it useful afterward; under morphin and scopolamin one is neither brave nor cowardly, but in a neutral state because these drugs depress the associational power of the brain.

Second.—In external operations, the damaging nerve impulses may be blocked and the brain protected by the local or intraneural infiltration of novocain.

Third.—The damaging reduction of the immunity in the acute infections may be avoided by the substitution of the *innocuous* nitrous oxid for *nocuous* ether.

Fourth.—In the operations, such as abdominal, in which the damaging nerve impulses in the deeper parts cannot be blocked by local anesthesia, nitrous oxid anesthesia, as compared with ether anesthesia, confers a high degree of immunity to shock. Under nitrous oxid a patient will endure approximately four times the amount of operative trauma as under ether, and in addition the patient will go to sleep pleasantly instead of under

stress; there will be little or no postoperative nausea such as follows the use of ether; there will be an immediate complete awakening from anesthesia instead of ether intoxication. In what manner does nitrous oxid protect the brain cells more than ether? It must be remembered that nitrous oxid produces anesthesia by the prevention of the use of oxygen by the brain cells—an anoxemia of the brain cells. Now, the chemical response of the brain cells is, of course, only possible in the presence of oxygen; therefore, in nitrous oxid anesthesia there being a large reduction in the amount of oxygen available the highly dischargeable substance of the brain cells is prevented from being so rapidly used up for want of oxygen. It is like turning on the fire extinguisher before the torch is applied. Nitrous oxid has several limitations: it is difficult to administer well; it requires a specially trained anesthetist; it is more expensive than ether; it does not give so complete a relaxation in abdominal operations as ether; there is more venous congestion in the operative field. All these shortcomings may be either overcome or circumvented. The surgeon can readily adapt himself to its use in operating, as I have found by using it in over 2,400 operations; it compels gentleness and precision, surely not surgical faults. In over 2,400 administrations in general surgery in my own experience, and in 17,762 in the experience of Dr. Teter for dental and surgical work, making over 20,000 in all, there was no anesthetic fatality. All these were administered by the Teter apparatus. We have thus far considered the conservation of energy in the course of operation; is there any means of restoring, in part, lost vitality sufficiently to reclaim certain otherwise hopeless risks?

Turning now to the patients handicapped by starvation or by hemorrhage—such, for example, as neglected pyloric obstructions, whether malignant or benign, hemorrhages from gastric ulcers, extra-uterine hemorrhages, various types of pathologic hemorrhages; these conditions handicap the patient by reducing the nourishment of the brain cells, hence diminishing their functional power. Further experience has amply confirmed observations heretofore reported, viz., that by either a preliminary or a simultaneous transfusion of human blood, these desperate risks may at will be converted into safe ones. Even in cases of patients with chronic starvation from cancer brought to the hospital in the ambulance, I have succeeded by a two-stage operation; first, by a gastro-enterostomy with the assistance of transfusion; then, when the patient recovered a sufficient vitality from the combined effect of the transfusion and subsequent taking of food, by a resection of the stomach. In certain forms of pathologic hemorrhage, the transfusion of normal blood may at once control the bleeding, and also replace the blood that has been lost.

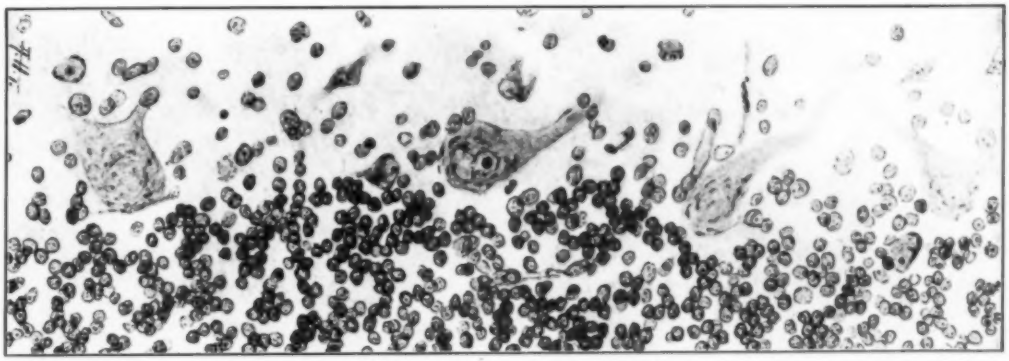

Fig. 3.—Area from cerebellum. Septicemia from streptococcus. The differential Purkinje cell-count showed: active cells, 11 per cent.; fatigued cells, 59 per cent.; exhausted cells, 30 per cent. The patient, a man 48 years of age, died forty-eight hours after receiving a scratch on his hand. The percentage of exhausted cells is very high. Compare this case with that of Fig. 1, a comparatively normal case. Similar changes were seen throughout the cortex as well.

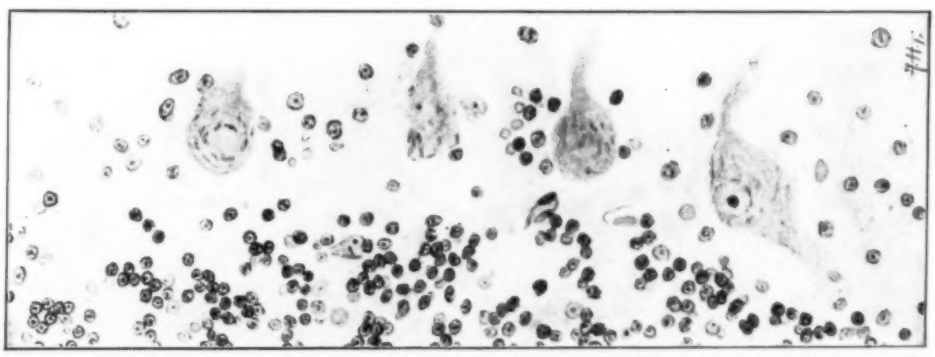

Fig. 4.—Epithelioma of tongue and lymphatic glands. The differential Purkinje cell-count showed: active cells, 4 per cent.; fatigued cells, 39 per cent.; exhausted cells, 57 per cent. Of the 57 per cent. of exhausted cells one-half were almost completely disintegrated. Note the general loss of chromatin in the Purkinje cells, the total loss of nucleolus in three cells and the indefinite cell outline. Compare the brain cells of this exhausted, cachectic patient with Fig. 1, a comparatively normal brain picture.

In that great horde of industrial accidents—especially in crushings of limbs, when the patient is admitted in the condition of grave shock—a transfusion usually rescues the patient. Transfusion should be done either just preceding or during the operation. Should there be a postoperative hemorrhage in any case, transfusion renews the surgical opportunity and may convert defeat into victory.

There has now been a number of strikingly successful cases, any one of which, in my opinion, compensates a thousand fold for the experimental labors and the use of animals in the development of the principles and the technic of transfusion. Applying the two great principles, that of the conservation of the energy by special technic during operations, and that of transferring energizing blood from the normal to the patient, we have in our hands new powers in both attack and defense. It enables one to operate in an explosive case of exophthalmic goiter in such a manner that the patient at the end of the operation is approximately the same as when in bed the day before, and every case may by this method have at least the minimum operation performed. We may reclaim the starved and bleeding abdominal cases; we may amputate the diabetic leg with confidence; besides great control of the vital processes allows the needed time, even in the handicapped case, for a more precise and complete technic. In more than 90 per cent. of my patients, in the routine operations, there are no unpleasant memories of the operating room, the postoperative discomforts are greatly minimized, and the mortality rate, in my own experience, is certainly reduced, as indicated by a rate of 1.9 per cent. in the 2,410 operations performed under the foregoing principle in a general surgical service. In a number of these, the operation was done with a complete exclusion of fear, under nitrous oxid anesthesia, and local anesthesia as well, thus completely protecting the brain from all harmful associations—a state best designated by a new word, viz., *anoci-association*. In this state the brain is completely isolated from operative influences and is not more affected than if the operation were performed on the clothing. This is the ideal surgical state.

Against the development and the use of these methods of greater safety and efficiency in operative surgery, there may be urged the objections that these methods involve a higher training and increased labor on the part of the nursing and the operating staff, that certain new apparatus is required, and that the hospital must meet an increased cost. These easily surmountable objections must be balanced against the disappearance for good of the ether drunken patient, the freedom from postoperative nervous impairment, and the preservation of life itself.

6203 Euclid Avenue.

Clinical and Laboratory Diagnosis.—Under present conditions of private practice crude, rough-and-ready methods of diagnosis are in many cases the best that can be utilized. A refined method poorly executed is worth far less than a rough method carefully and intelligently used by an experienced, keen-sighted, thoughtful man. But the public has a right to demand the more refined methods. Within a generation we have seen most of major surgery transferred from the home to the hospital. There the surgeons can depend not only on the nursing staff to provide better hygienic treatment than is possible in the home but he can also in a well-manned hospital depend on the interns to utilize many of the more refined and time-consuming methods of diagnosis. To these factors surgery owes no small part of its success.—C. R. Bardeen in *Science*.

THE PATHOGENESIS OF THE BALANTIDIUM COLI *

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During the past decade the *Balantidium coli* has been attracting much attention in respect both to its pathogenicity and to its life history.

In Manila the material for study, both clinical and pathologic, has been comparatively abundant. The literature on the subject has been thoroughly reviewed by previous writers and will not be discussed here. Only those points bearing directly on the pathogenicity of the organism will be considered. During the past three years I have examined many specimens containing the organism, but have been unable to follow many of the cases because the patients complained of no symptoms and could not be detained in the hospital; in all I have been able to study clinically ten cases, three of which came to autopsy and have been reported elsewhere.[1]

At present, four cases are under observation, three of which have balantidia in the feces intermittently, the other one, although complaining of little diarrhea, has them constantly present.

ZOOLOGY

Balantidium coli belongs to the *infusoria* class; subclass, *Ciliata;* order, *Heterotrichida;* family, *Bursaridæ*.

It has an oval body from 0.07 to 0.1 mm. in length by 0.05 to 0.07 in width, is pointed anteriorly when the periostome is extended and covered with parallel rows of cilia giving it a striated appearance. It has a bean-shaped macronucleus and a globular micronucleus. It apparently has three methods of reproduction: budding, conjugation and division, though in my studies I have only been able to see definitely the latter, and this is probably the most common. The organism may change its shape in passing through some obstruction, narrowing until the projected portion appears almost like a pseudopod. Sections cut through tissue very often show these processes and they might be mistaken for budding forms.

In the fresh feces, organisms are found in pairs and even larger groups and this has probably often been construed as conjugation, but this grouping seems to be a characteristic of all ciliata and flagellata and is probably in most instances purely physical in character. Both in stained feces and in stained sections of intestinal ulcers these groups were seen, but no cytoplastic changes were found in the nuclei.

The rapid circular motion of the periostome cilia seems to exert an attraction which brings the organisms in contact. I have observed many times in fresh feces, two of them moving along rapidly in the fecal material, suddenly, on approaching each other, dart together and remain in this position for a considerable period of time, though no interchange of material could be seen taking place between them and no evidence of reproduction changes.

The hog has been thought to be the most common host of the organism, but the method of transmission to the human host is indefinite. In studying the organism in the human, I have never seen any evidences of encyst-

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Biological Laboratory of the Bureau of Science, Manila, P. I.

1. Philippine Jour. Sc., December, 1909, iv, No. 6; April, 1911, vi, No. 2.

ment, though if man is infected from the hog, it is probably by resistant encysted forms.

Geographically the disease is generally distributed, cases having been reported from Russia, Sweden, Finland, Italy, Germany, Africa, China, North America and the Philippines and thus, it is in no sense distinctly tropical.

CLINICAL SYMPTOMS

These somewhat resemble those seen in amebic infections. First of all, mild intermittent diarrhea, each succeeding attack becoming more severe than the preceding one, and the simple diarrheic stool gradually becomes weak and emaciated. The stool finally consists of only necrotic material, clots of blood and mucus and the patient may die of exhaustion or as the result of perforation.

During the attack of diarrhea in the first stages of the disease, balantidia are found in the feces and are usually absent during the periods between the attacks. As the diarrhea becomes less intermittent, the organisms may be found at any time in numbers depending more or less on the character of the stool. They are sometimes found practically swarming in the mucous portions.

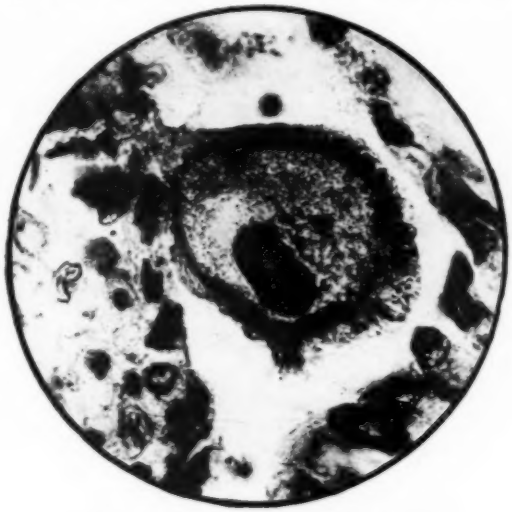

Fig. 1.—*Balantidium coli* in lymphatic gland.

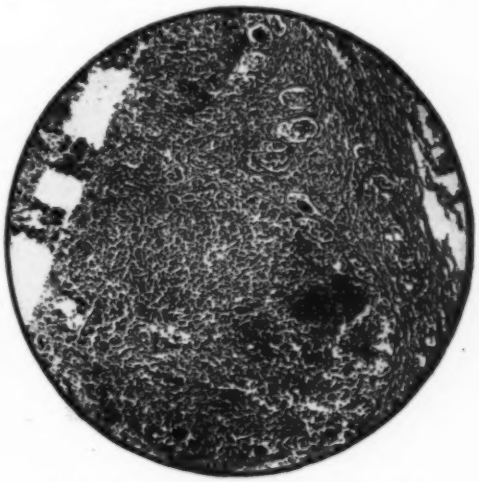

Fig. 3.—Numerous balantidia in lymphatic gland.

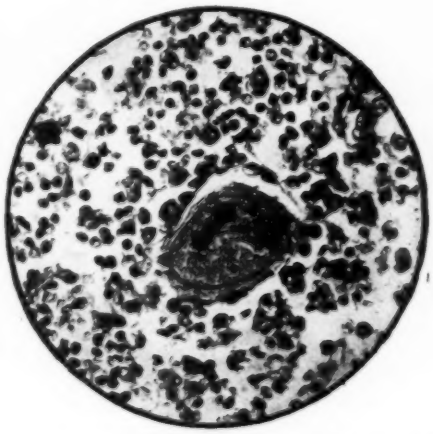

Fig. 2.—*Balantidium coli* in lymphatic gland, showing beginning nuclear division.

Fig. 4.—*Balantidium coli* passing through basement membrane of a gland of Lieberkühn. This might be mistaken for a budding form. (Illustration from Strong's article, Pub. Philippine Isl. Bur. Sc. Biol. Lab., 1904, No. 24, p. 1.)

becoming dysenteric in character. The patient complains of loss of appetite, indigestion, flatulence and pain in the lower abdomen. He may have palpitation. As the diarrhea becomes more severe there is some tenesmus, and bloody flakes and mucus are noticed in the feces. These symptoms may suddenly disappear without any treatment, only to return in perhaps a week or even a month, suddenly and with more severity. These attacks become more numerous and the patient

There may, or may not, be leukocytosis, my cases showing practically no increase in the number of leukocytes. A marked eosinophilia has been noted by many observers and I have also noted this fact, but the presence of intestinal worms in most natives in the tropics probably influences the blood picture to a great extent.

DIAGNOSIS AND PROGNOSIS

The diagnosis is made entirely on the finding of the organism in the feces and the absence of other intestinal protozoa.

Prognosis is not good even in the very early stages of the disease. As the infection progresses, it becomes rapidly worse and in the later stages, when the stool is distinctly dysenteric in character, the prognosis may be pronounced in most cases hopeless.

Fig. 5.—Balantidia in a blood vessel.

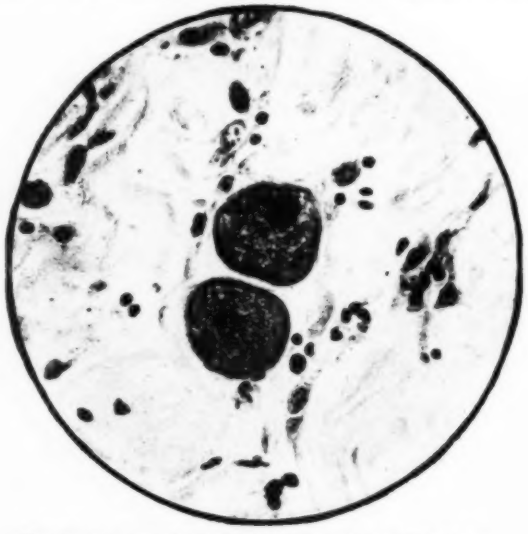

Fig. 6.—Two organisms in submucosa causing practically no cell reaction.

GROSS PATHOLOGY

In my cases the ulceration caused by this parasite has been limited almost entirely to the colon and rectum. In one case only, a few shallow ulcers were found a few centimeters above the cecum and in most, if not all, of the cases in the literature, the small intestine has been unaffected. The cecum may be greatly thickened where the most severe and chronic ulceration is present. In two of my cases, in some places it was as much as 3 cm. in thickness, and the rectum and part of the colon was a mass of ulcerating necrotic tissue.

Fig. 7.—Two balantidia lying just beneath the mucosa. Numerous round cells may be seen, with evidence of beginning ulceration.

The ulcers vary in size from 0.5 cm. to 3 or 4 cm. in diameter. They bear no distinct relation to the mesenteric attachment. The early ones are shallow, not injected at the edges and are not undermined. From the larger and older ulcers hang tags of black necrotic tissue and the edges are undermined, indurated and injected. The base may be thin, only the serosa intervening between the bowel lumen and the peritoneal cavity. In one of my cases, perforation had taken place in one of the ulcers of the cecum.

There is nothing to distinguish the late ulcerations caused by amebas from those caused by the *Balantidium coli*, though the early amebic ulcers appear to be some times more punctate in character.

The mesenteric lymph-glands may be enlarged and necrotic.

HISTOLOGIC EXAMINATIONS

The parasites are found in all the layers: mucous, submucous and muscular. They seem to be much more numerous in the submucosa than elsewhere, and in the blood-vessels, "nests" of them with twenty or thirty organisms massed together may be found. Some of them are found in the glands of Lieberkühn, and Strong has demonstrated a parasite rupturing the basement membrane and passing through the gland-wall. Where many of them are gathered together in the subglandular tissue, a surrounding zone consisting of plasma-cells and

lymphocytes is found, with an abnormal number of eosinophils, but with very few polymorphonuclear leukocytes present. On the other hand, the cellular constituents of the necrotic material covering the ulcer consist largely of polymorphonuclear leukocytes. This fact would seem to indicate that the parasite, on first entering the tissue, causes a low-grade inflammation independent of any bacteria which it may have carried with it. The intestinal bacteria are the terminal invaders and cause necrosis of the tissue already undermined and weakened by the balantidia. Undoubtedly, many of the primary ulcers are caused by organisms entering the glandular layer, but, having once entered, ulceration may be the result of another process. On studying sections quite remote from any ulceration and through apparently uninjured mucosa, the organism may be found invading the submucosa and muscular strata, while in the mucous layer none are found. Where they are found singly, there may be no evidence of inflammatory reaction, but, in other areas where several of them are gathered together, there may be many round cells forming a surrounding zone, and in still other situations marked evidence of inflammatory reaction. In a study of many sections, all stages in this inflammatory process may be seen. From the single balantidium which seemingly has pushed itself mechanically through the tissue with little cell reaction, to groups of the parasites with surrounding zones of lymphocytes and plasma-cells which have infiltrated the mucosa itself, demonstrating a reaction which, with the invasion of intestinal bacteria, will terminate in ulceration.

The organisms may enter the mesenteric lymph-glands and cause necrosis. In one of my cases, they were found very numerous in one of the sectioned glands and there was some increase in the polymorphonuclear elements present, but no bacteria could be demonstrated and there was no evidence of tuberculosis. If the organism can invade the mesenteric lymph-glands, invasion of the lungs and liver would seem much more probable.

In two of my cases, the marked adhesive pleuritis and pericarditis was very striking and, in view of the fact that there was no evidence of tuberculosis, the *Balantidium coli* may have been the primary invader causing these conditions, though sections from the diseased pleura and pericardium failed to show any organisms present.

ANIMAL EXPERIMENTS

In view of the fact that an epidemic of dysentery due to *Balantidium coli* in orang-outangs had been reported by Brooks,[2] and Noc[3] had reported a natural infection in a monkey (*Macacus cynomolgus*), it was decided to attempt to infect monkeys.

Feces containing many organisms from a case of balantidium infections were injected into the rectum of a monkey (*Macacus cynomolgus*) on several occasions, but the stool always remained negative and no symptoms of dysentery developed. This was done many times with different monkeys, always with negative results.

A colotomy was performed on another monkey and 20 c.c. of infected feces injected on two occasions, but the stool examinations always remained negative.

A section of a colonic ulcer from one of my cases was securely sutured in the wall of the colon of a monkey, in the hope that resting or encysted forms might be present which would be more resistant to manipulation incidental to the changing of the host. No infection of the animal occurred. As to cultivation, in this laboratory we have been unsuccessful. I have observed the organism alive for twenty-four hours on Musgrave and Clegg's media, and Walker (in this laboratory) has noted life for six days, but with no reproduction, those alive being some of the individuals originally inoculated on the media.

2. Brooks: New York University Bull. Med. Sc., 1902.
3. Noc.: Compt. rend. Soc. de biol., 1910, lxiv, 878.

SUMMARY AND CONCLUSIONS

Whether a break or abrasion in the mucosa of the intestine is necessary for the entrance of the *Balantidium coli*, whether it can force its way through the lining membrane by purely mechanical means or whether a cytolytic ferment is liberated, we do not know. Once it has entered, its progress is limited only by the length of the colon.

The *Balantidium coli* is a parasite which, though not so wide-spread as the ameba, in individual cases is equally serious in its effects. It does not live in the intestine in a state of harmless commensalism, but causes a dysentery which in its late stages is not amenable to medication and usually results in death.

807 St. Paul Street.

Fig. 8.—Ulceration of colon caused by *Balantidium coli*.

Sanatorium Treatment of Tuberculosis.—Two points are frequently referred to by C. D. Parfitt in his discussion (*Dominion Medical Monthly*) of the sanatorium treatment of tuberculosis, namely: the crowding of sanatoriums with patients who, because of severe illness, properly belong to a hospital, and the need of efficient organization for consistent supervision of all details of life of the patients. Also, he points out that an organization reasonably efficient for the needs of an institution which treats only a recoverable class of patients, may be quite inadequate to attend properly to either class of patients when the classes are mixed to the degree that obtains at present.

MEDICAL TREATMENT OF THE PATIENT BEFORE OR AFTER THE CATARACT OPERATION *

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It can be said with much truth, that the surgical treatment of the cataract patient has so absorbed the attention of the profession that the medical treatment has been a secondary consideration. Generally, little attention has been given to the patient's physical condition for the most delicate operation of surgery. My purpose is to emphasize the importance of medical treatment for certain types of these patients.

It should begin a week or more before the operation so that the general health shall be at its best, and the eye itself and its adnexa shall be in such a condition that purulent infection from dacryocystitis or from different forms of conjunctivitis may be avoided.

It is a great mistake to underestimate the importance of thorough preparation of the patient for such an operation.

A patient with senile cataract is not likely to be in a good state of health, because as a rule, he is advanced in years, leads a sedentary life, and the ravages of disease and the attributes of age have made him a wreck of his former self. While age, *per se*, cannot be regarded as a cause of cataract, certain nutritive tissue changes often associated with arteriosclerosis and fibrosis to which Metchnikoff[1] attributes the oncoming of age, are characteristic of this time of life, and these conditions probably predispose to cataract.

The average age of cataract patients in India according to Hirschberg is 42 years; in America the average age is 62½ years, and fat, gouty and rheumatic patients are often encountered in America and are the *bête noire* of ophthalmologists.

A cataract patient should be free from bowel and bladder trouble, cough, dyspnea, dacryocystitis, chronic nasal disease, blepharitis, chalazia and styes. The patient should be in a hospital from twenty-four to forty-eight hours before the operation, or long enough to allow the attendant to make an estimate of the physical condition, to unload the bowels, also to examine the urine, and the intra-ocular pressure with the tonometer, to note the blood-pressure and the condition of the arteries, and if blood-pressure is high, e. g., above 220 mm., to reduce it if possible below 190. Personal experience has proved the value of information furnished by these examinations. The individual should have been on a light diet for several days, and should have had a good night's rest before the operation. If nervous, he should have from 30 to 40 grains of sodium bromid, and 10 to 15 grains of sulphonethylmethane (trional) or veronal early in the evening, or, if his condition demands it, he may be given morphin and scopolamin, and in extreme cases an anesthetic at the time of the operation; but usually comforting assurance that all will be well is all that is needed.

This is not a large subject, so far as conditions before operations are concerned, because most of these patients have been under the care of the family physician or have consulted the specialist, who has already given them the necessary preliminary treatment. Most of these conditions need only to be referred to; their treatment is self-evident.

But there remains a class of cataract patients in whom non-purulent infections cannot be traced to any of the conditions or diseases which I have named, and therefore, are not of exogenous origin, but originate within the body of the patient. These are cases so often associated with the so-called rheumatic and gouty diathesis, of which we know so little and which we incriminate so much, and while they are of importance before the operation, they are thought to assume their most important rôles as postoperative expressions of the state or condition generally associated in the mind of the profession with faulty metabolism and auto-intoxication.

Of the agricultural people of the Punjab, who make up about four-fifths of the cataract patients at Smith's clinic, the men are tall, muscular and do not carry any superfluous fat. They live chiefly on a rice-milk diet with a few vegetables and very little meat, and consume very little alcohol. As a rule they work long hours and have insufficient food, and they perspire freely under the rays of the tropical sun. Limited diet and active elimination by the skin are not favorable to the development of faulty metabolism and acid auto-intoxication.

Just what influence this may have in preventing postoperative complications we may not know definitely, but the comparative absence of complication following cataract operations among Indians is more than suggestive. On the other hand, among obese and sedentary American patients the conditions which seem favorable for auto-intoxication are more often found, and it is my observation that this latter class furnishes the chief contingent of non-suppurative postoperative troubles.

Axenfeld,[2] speaking of metastatic ophthalmia, a somewhat kindred subject, has said:

> **Although purulent inflammations only differ from non-purulent in degree, and although we know that the causal agents of the former under special conditions can cause non-purulent, serous, or plastic inflammations, yet the purulent hematogenous inflammations arising in the eye can be put into a special class, for we know with certainty that in every case pyogenic organisms have settled down in the affected part of the eye. We cannot infer in an endogenous purulent inflammation, that the toxins, which were circulating in the blood, have settled down at one spot; the hypothesis that such a microbe-free metastatic ophthalmia exists is quite without proof.**

At the Boston meeting of this Section in 1906, de Schweinitz[3] presented a paper entitled "Auto-Intoxication in Relation to the Eye."

At the Chicago Session in 1908, de Schweinitz and Fife[4] presented another paper, entitled "A Further Contribution to the Possible Relation of Auto-Intoxication to Certain Diseases of the Cornea and Uveal Tracts." These papers can be read to great advantage in connection with the subject, as they undoubtedly show an association, if not a relation between auto-intoxication and certain postoperative complications.

I am convinced, from personal experience, that the comparative infrequence of postoperative complications in Smith's clinic in India is due, first, to the thoroughness of his operation which excludes capsular remains and cortical débris and an after-cataract (prolific sources of after-troubles in the regular cataract operations), and second — perhaps of more importance from a medical standpoint — to the diet, age and physical condition already referred to.

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Metchnikoff: The Nature of Man.
2. Bacteriology of the Eye, p. 364.
3. THE JOURNAL A. M. A., Feb. 9, 1907, p. 502.
4. THE JOURNAL A. M. A., June 20, 1908, p. 2040.

Why postoperative complications occur, or in what they consist, or why one person should escape them and another not, under apparently similar conditions, *we do not know*, however much we may suspect auto-poisoning. But the fact remains that these complications exist, and that short, red-faced, thick-necked, heavy-set, fat persons, whose weight is out of proportion to their height, who eat and drink excessively and lead sedentary lives, and who are of the so-called bilious, gouty or rheumatic type are prone to have postoperative reactions and, therefore, are not good subjects for cataract or any other operation. This condition is not unlike that of the alcoholic patient who is likely to do badly when disease or surgical operations tax his lowered vitality. He does not respond readily to treatment, or throw off complications which may arise.

It is not my intention to intimate that I believe that a large or even a moderate percentage of our cataract patients are liable to suffer from some form of uveitis as the result of endogenous infections; on the contrary, experience and observation show that the percentage of cases is not large *from all causes*, and that by proper eliminative treatment, it can be kept very small. It is to the treatment of this small percentage that I desire more particularly to call attention.

Experience has shown that early, prompt and energetic treatment, long-continued, if necessary, will often save useful vision in cases in which, otherwise, it would probably be lost.[5] There is no room here for therapeutic nihilism. We must have the faith of our fathers in the virtue of drugs, and administer them heroically, if necessary, to get results.

In an eye, opened for the first time between the second and fourth days, the lids should be free from redness and swelling, the section should be *firmly closed;* if not healed, there should not be prolapse, incarceration or entanglement of iris, the conjunctival redness and discharge should be slight, the aqueous should not be muddy, the tracery and pattern of the iris should be clear and distinct and the pupillary area unobstructed. Barring later accidents or complications, such an eye will heal kindly with a minimum of reaction.

If, on the contrary, the eye should show any of the following conditions: photophobia, chemosis, excessive redness and discharge, a cloudy cornea, cortical débris, muddy aqueous and discoloration of the iris, with, it may be, a gaping wound or vitreous presenting and iris prolapse and vision equal to hand movements, we know that things are not going well with that eye. In such conditions, we may not be able to recognize any cause for or limitations of these complications, we may not even know whether the infection has come from germs introduced into the eye, *exogenous infection* or whether the condition is an *endogenous inflammation* which by exclusion we can believe is caused by faulty metabolism and auto-intoxication, but the indication to open the flood-gates of the system, the bowels, the kidneys and the skin and eliminate all the poison possible is imperative.

I have had comparatively little experience in irrigating the anterior chamber for removing cortical débris after the regular operation; but I know it is not a safe procedure in the intracapsular delivery. I believe, however, that when such soft lens matter is left, the section should be opened and the débris delivered by scoop and pressure, together with as much capsule as possible. I believe that it is safer to do this even several days after the operation rather than hope for good results by treating the iritis, keratitis and other complications which are likely to follow.

For many years I have used atropin, 4 per cent. solution, after operation, and scopolamin, 1 per cent. solution, if complications arise, or if the former does not break up synechiæ and dilate the pupil, cocain and epinephrin,[6] which seem to be valuable additions to most mydriatic solutions, may be added. In iritis and cyclitis, mydriatics also do good by putting the ciliary muscle at rest. Leeching around the eye or blood-letting from the arm as advised by Fox,[7] may be of use in cases of primary or secondary glaucoma; when miotics do not relieve the tension of the eye-ball, and the blood-pressure continues high, a chamber, sufficient to get a knife through, may be secured, and an iridectomy performed without danger of wounding the lens. In this connection consult Fisher.[8]

In my experience, cases of delayed healing of the section are often associated with high blood-pressure and high intra-ocular tension. Healing can often be stimulated by local applications of medicines to the lips of the section and the administration of drugs to reduce high blood-pressure and high intra-ocular tension; the most important are purgatives. Sodium nitrate, nitroglycerin, potassium iodid, eserin or pilocarpin are indicated, and deep injections behind the eye of cyanid of mercury, salt solution and pilocarpin sweats or Turkish baths, hexamethylenamin (urotropin[9]), potassium iodid, colchicum, sodium salicylate, the latter in immense doses, 1 grain for each pound of body weight in twenty-four hours (Gifford).

Hot applications, leeches, atropin, scopolamin, eserin or dionin subconjunctivally, according to the state of the tension and other conditions of the eye-ball, are of great value. The value of mercurial saturation of the patient by the mouth subconjunctivally, hypodermically, intravenously, or by inunction is as well established as any empirical fact we have in medicine, and is the chief reliance of our English confrères in deep-seated intra-ocular inflammations.

The use of hexamethylenamin as a preventive of infection while the section remains open, or even after it has closed, has not yet been sufficiently studied. Its utility in these eye conditions is deduced from its known antiseptic action through the urinary tract, and it is also known to be eliminated through the aqueous humor, and is thus thought to prevent or modify a beginning inflammation of the uvea.

I have used it in one hundred cases, and although I have had only one purulent infection, I have not been able to reach any definite conclusion regarding its efficacy. Its irritating action on the bladder is an objection to its use, and I have not therefore been able to give the large doses, from 30 to 60 grains, recommended by some writers,[10] who insist that these massive doses are essential to success, but have been content with doses of from 7 to 10 grains three times a day.

We are in possession of many empirically known facts which must serve as a working basis in the treatment of the postoperative complications whether they result from faulty metabolism and auto-intoxication or not, which must guide us until we have a scientific method of treatment. Postoperative delirium is believed by some

5. Symposium on Uveitis, THE JOURNAL A. M. A., Sept. 20, 1902, p. 676, and Oct. 4, 1902, p. 820.

6. For use of this term see THE JOURNAL A. M. A., March 25, 1911, p. 910.
7. Fox, L. W.: Personal communication.
8. Fisher: Edema, p. 129 et seq.
9. Gradle, H. S.: Ophth. Rec., xx, 110.
10. Dinkelspiel: Jour. Ophth. and Oto-Laryngol., November, 1910.

to be a result of auto-intoxication. This statement I would not question. I think, however, that loss of orientation is more often caused by defective cerebral circulation, due to sclerotic arteries and the use of the occlusive bandage and want of care in using atropin, than to other causes. The relief which usually follows removal of the bandage and care in the use of the mydriatics is evidence of the correctness of this view.

It may be a question whether the part of the paper which relates to the evil effects of auto-poisoning as it concerns the operated eye, will be regarded as of much importance in itself because of our limited knowledge of the subject. But I am convinced that any one who is sufficiently interested will find that the subject is a broad one with enough known truth pervading it to suggest that further study and research will be rewarded by a broadening and accuracy of our knowledge of the harmful effects of self-poisoning, and the means of preventing this condition, which will reward the investigator and benefit mankind.

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ABSTRACT OF DISCUSSION

DR. D. W. GREENE, Dayton, Ohio: In addition to what has already been stated in the paper, I wish to emphasize the importance of medical treatment whenever it seems indicated either before or after operations, and to state my confidence in the efficacy of two remedies, which if used in a definite way and in proper doses, will greatly improve, if not cure, a higher percentage of uveal exudations, with or without plus tension, than any plan of treatment with which I am familiar. In the limited state of our knowledge concerning these drugs, one should not feel justified in depending on their use alone, but should still use in conjunction with them the old stand-by treatment, elimination, large doses of sodium salicylate, mercurial saturation. The remedies referred to are dionin in 5 per cent. to 10 per cent. solution, subconjunctivally, and citrate of soda in 5.5 per cent. solution used in the same way, whenever plus tension becomes an element in the case. This latter drug will reduce the tension of an enucleated animal eye which has laid in a weak solution of hydrochloric acid until it becomes very hard. T = plus 3 or 4, to the normal or even subnormal tension in a short time. This is the statement made by Fischer in his book entitled "Edema." Any one can satisfy himself of the truthfulness of this statement who will put it to a test. The only question is whether the living human eye can be influenced in the same manner and to the same degree that is observed with such regularity in the eyes of dead animals. My experience with this use of 5.5 per cent. of citrate of soda in glaucoma is limited to one case of the chronic simple form in which the tension was reduced in each eye from about plus 2 to normal. There was no restoration of vision that had been lost but the improved appearance of the eye was quite noticeable in clearing of the cornea and better definition of the tracery and pattern of the iris. This drug is only on trial, but if Fischer's theory that glaucoma is only a local edema should be accepted as the true explanation of its occurrence, his plan of treatment promises great possibilities.

Since the paper was written, it has been my lot to see two postoperative complications such as I have attempted to describe in the paper. One was evidently precipitated by excessive use of the eyes in reading three weeks after a Smith operation; the other followed an iridotomy made with a Ziegler knife, which proved not to be sharp. In each case vision fell to recognition of hand movement at one foot.

Under the general plan of treatment outlined in the paper vision improved in each case to 20/15 within thirty days. When several drugs are used for the same purpose it is not always possible to assign to each its proper curative influence, but the influence of deep subconjunctival injections 15 minims over the internal rectus and the same amount over the external rectus of a 10 per cent. solution of dionin in quickly improving the eye conditions was so manifest that it has seemed reasonable to me to attribute the successful outcome of these cases in a large measure to the use of dionin injected as just described.

DR. WILLIAM F. MITTENDORF, New York: I hardly think that any experiments with the enucleated eye by putting it into acid and afterward into a solution of soda would have any effect on the eye to harden it. Acids will harden the sclerotic coats of the eye, but will not change the intraocular tension. Now, if you put it into a solution of soda, which counteracts the acid, you would naturally get a softening effect. But as to the lens in the living eye, that is different. The hardening is caused by the intra-ocular tension, and I do not see how acid and soda hardening of the enucleated eye can be of much importance in this respect.

DR. F. T. ROGERS, Providence: My experience with dionin has been that there is frequently an unpleasant reaction. It seems to me if 30 minims of dionin are injected subconjunctivally the reaction must have been unpleasant. Is not this the case?

DR. G. C. SAVAGE, Nashville: I wonder if Dr. Greene's paper does not contain an error, the use of a 4 per cent. solution of atropin. If he had seen people get as crazy as I have seen them on a much weaker solution, and had sat up all night with them and held them in bed, I do not think he would use it in that strength. Two drops of a 1 per cent. solution has made several of my patients entirely crazy for a considerable length of time. It may be a tendency in our part of the country; I do not know. I endorse the use of dionin when the eye is inflamed after cataract. I have never given it subconjunctivally. I would not hesitate to give it, statistics or no statistics. I do not believe that the reaction means other than good to the inside structures of the eye. Whenever there is a suspicion of infection of the corneal incision I do not believe we have anything better to help to destroy that infection at once than a fairly strong solution of acetic acid. Use 1 drop of acetic acid No. 8 in 5 drops of water; apply a weak solution of cocain and in two minutes take a pledget of cotton on a toothpick and dip it in the solution and carry it along the incision. Acetic acid is undoubtedly germicidal. In its after-effects it is soothing, and it is promotive of epithelial growth.

DR. H. W. WOODRUFF, Joliet, Ill.: I have had some experience in the use of citrate of soda in increased tension, and inasmuch as this subject has not been investigated except by a few, this may be of some use to you. I have used 5 per cent. citrate of soda injections in a case of rise in tension following iridocyclitis with very happy results. The tension was lowered in five minutes and did not become elevated again for two days. At the end of that time the tension began to rise again and a second injection was made with the same results, and the tension remained down from that time on. That is the only case in which I have used the drug. I have felt that it could not be of any service in the chronic forms of glaucoma, except perhaps temporarily, but in these acute cases I think it is exceedingly valuable. I would like to say something also about the treatment of the infection which we sometimes have following cataract extraction, and that is regarding the use of injections of cyanid of mercury, which, by the way, sometimes also increases the tension. Dr. Savage has spoken of the treatment of the wound by acetic acid, which is, of course, proper. One objection I have always had to the after-treatment as advocated by Dr. Greene in the Smith operation is not examining the eye for several days. I always want to look at my extractions at least the day afterward, because I am absolutely certain that I have saved eyes which would certainly have been lost if I had delayed the examination of the eye. Very often cases of infection do not manifest any pain; the patient does not complain, but you take off the bandage and the cornea has sloughed. I will relate one case to illustrate it. I performed a cataract operation on a patient who had a dacryocystitis. I had thought perhaps I had eliminated the infection. I had not removed the sac, but there appeared to be no sign of pus and no organisms in the conjunctival sac. Of course, I did not feel at all satisfied about it. The next morning when I removed the bandage

there was a hypopyon, a cloudy pupillar area; in fact, there was no question that there was an infected eye. I immediately made an injection of mercuric cyanid solution in the strength of 1 to 1,000, injecting 8 minims with 4 minims of a 4 per cent. solution of cocain. I examined the eye again in the afternoon, perhaps about four or six hours later, and there was no increase in the hypopyon and apparently some clearing of the anterior chamber. I made a second injection of the same strength and the next morning there was no pus in the anterior chamber; the media were clear. No further injections were necessary and the patient made a recovery with an average degree of vision. I have had a number of cases of which this one is a fair sample. Very often it has not been possible for me to see the eye so soon as a day after operation, and I have always felt that almost every case of simple infection if seen within twenty-four hours and this injection made, could be saved.

DR. F. P. CALHOUN, Atlanta, Ga.: The case I wish to report is apropos of the medicinal treatment before cataract operation. It was a case of cataract in which there was hookworm disease, one of four reported at the recent meeting of the Georgia State Medical Society. This case was in every way typical of this disease. The patient was anemic, with bloated face and dropsical extremities, offensive breath and a history of ground-itch several years before. The hemoglobin was 20 per cent. The boy was 20 years old, but in intellect was a mere child. He had been blind about a year. The eyes showed typical soft cataract. Three discissions with one week intervals were made with no ripening at all of the lens. The patient had hyperemia of the conjunctivæ. At that time it was decided to give the patient the usual treatment for hookworm, namely, restricted diet, then calomel, salts and thymol. A collection of the stools was made after this treatment and there were 850 parasites found. Under Blaud's pills and a nutritious diet the patient rapidly improved in his general condition and two weeks after this treatment there commenced to be a marked reaction in the lens and great injection of the conjunctivæ. The ultimate results were most satisfactory. The point I wished to make was the mistake in not giving this treatment before the discissions were made. I believe the reaction would have been more marked.

DR. A. E. BULSON, JR., Ft. Wayne, Ind.: What are Dr. Greene's reasons for using dionin subconjunctivally? I have used it in that manner and have never seen any advantages over its application to the conjunctival sac. The effect seems to be the same, while subconjunctivally it is painful.

DR. D. W. GREENE, Dayton, Ohio: In answer to Dr. Bulson I use dionin subconjunctivally because it is much more effective. I never give these injections without previous injection of weak cocain or eucain. Usually there is little pain. I deal largely with old soldiers and they stand pain well. In private practice I have had a good deal of complaint. One patient complained a great deal of everything done for her, so there was difficulty in estimating how much pain she had. I had a man at the Soldiers' Home to whom we gave no anesthetic whatever and he did not complain. Another man complained bitterly who did not have the anesthetic beforehand. Dr. Rogers asked concerning excessive reaction. That is what does the good. One does not get the reaction from applications outside; the same with the citrate of soda. One can drop it into the sac and let it remain fifteen minutes, but one gets no effect. One must get it deep in behind the eye or along the course of the muscle. Of course, one does not want to get the dionin into the capsule of Tenon; one wants to get it in the course of the muscles without going into the capsule. If one puts it there a very severe reaction and much more pain will be the result. That I have tried to avoid.

In reply to Dr. Savage's question in regard to 4 per cent. solution of atropin I do not know why I have used it except that I have not been able to get the reaction I wanted from 1 per cent. solution. I have never seen untoward results from this. I do not think Dr. Savage will if he will use it right. In the paper I stated that the patient's head must be turned to one side and the atropin milked out carefully and washed out so that it will not get into the punctum. I have never seen a case of poisoning from this solution and it has seemed to be a much more effective strength than the 1 per cent.

In regard to acetic acid, I had a case of delayed healing in a private case in which I attempted to use nitrate of silver in an open wound. I did not wipe my applicator and that nitrate of silver in 10 per cent. solution left a white line on Descemet's membrane, and that has made me fearful of applications of any strength. Dr. Woodruff's experience with the citrate of soda has been like mine.

In regard to examination the second day, certainly no other wounds are opened and meddled with and handled the second day; they are given time to heal. Injections of mercuric cyanid I have used in only a few cases. They are painful and I have avoided them. I once saw Major Smith flush the conjunctival sac to remove blood and he, as you know, uses a great deal of force; the reservoir is up 5 feet. He not only washed out the blood-clot, but a 1 to 2 per cent. bichlorid solution went into the anterior chamber, and Descemet's membrane became white and remained so for four weeks, while the patient was in the hospital, and I suppose it is white yet.

THE CHOICE OF THE ANESTHETIC

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Nitrous oxid was introduced as an anesthetic by Wells in 1844, ether by Morton in 1846 and chloroform by Simpson in 1847. Although a large number of other agents have been tried since, these three introduced within the short period from 1844 to 1847 still remain the most valuable means of producing general anesthesia.

In 1868, Edmund Andrews of Chicago demonstrated the value of the mixture of nitrous oxid and oxygen as an agent for continued anesthesia. In 1884, Kohler discovered the value of cocain as a local anesthetic. In 1899, Bier produced, by the injection of cocain into the subarachnoid space of the spinal cord, anesthesia of the lower extremities and the lower part of the trunk. In 1869, Claude Bernard observed in experiments on dogs that morphin, given before the administration of chloroform, facilitated its action and reduced the amount required. This suggestion was soon put into practical use and morphin, morphin and atropin, and morphin and scopolamin or hyoscin have since been more or less widely employed before the administration of a general anesthetic.

To-day the surgeon has at his disposal the following methods of producing anesthesia:

1. General anesthesia.
   - *a.* Chloroform.
   - *b.* Ether.
   - *c.* Nitrous oxid (alone, with air, with oxygen).
2. Spinal cord anesthesia.
   Cocain and similar agents.
3. Local anesthesia.
   Cocain and similar agents.
4. Morphin and scopolamin (hyoscin), either alone or as part of a sequence.

These four methods have been combined in all possible ways as mixtures and sequences, as the A.C.E. mixture, as the nitrous oxid and ether sequence or mixture, and as the morphin-scopolamin-ether sequence, etc.

During the last eight years, in our surgical service at the Presbyterian Hospital and Rush College, we have attempted to make a study of the subject of anesthesia and this paper is in the nature of a report of the conclusions arrived at from our own work and from a study of the literature undertaken with the purpose of aiding us in the selection of the anesthetic. The work which has been done on our service is represented by five

reports[1] which, briefly summarized, gave us the following facts:

The study of Favill and myself showed clearly the late poisonous and fatal effects of chloroform, associated with acute fatty degeneration of the liver. This has been confirmed by a study of the previous literature and by the great accumulation of clinical evidence and laboratory experimentation since that time; the paper on nitrous oxid was simply intended to show its wide possibilities in major operations. The work of Hamburger and Ewing was both a clinical and experimental research, and I regard their work of special value. Their conclusions are as follows:

In analysis of blood-changes incident to nitrous oxid anesthesia we find:

A. The hemoglobin is not permanently reduced nor is anemia produced.

B. Hemolysis is not increased.

C. The changes in the readings of the hemoglobin (there is an apparent increase in hemoglobin after nitrous oxid anesthesia) and of the red cells are transient and of no surgical significance, and are explained on the basis of capillary stasis. The production of reduced hemoglobin is not a result of the anesthetic itself, but is due to the accompanying asphyxia.

D. The changes in coagulation time are not constant, but in general there is an increase in the time required for clotting, most marked about the third day.

In an analysis of blood-changes incident to ether anesthesia we find:

A. The hemoglobin is slightly reduced; therefore a slight anemia is produced.

B. Hemolysis is not materially increased.

C. The changes in hemoglobin and red cells are not to be explained on the basis of blood inspissation.

D. Ether causes a marked decrease in the coagulation time most marked from the seventh to the tenth day.

The average fell from seven minutes before anesthesia to four minutes on the seventh day. This may have an important relationship to the clinical occurrence of infarcts and thrombus a week or ten days after anesthesia. This action of ether might be beneficial in certain hemorrhagic conditions such as hemophilia and jaundice.

In chloroform anesthesia we find:

A. The hemoglobin is reduced and an anemia is produced.

B. Hemolysis is increased.

C. It causes a slight decrease in the coagulation time, most marked from seven to ten days.

In a comparison of the three anesthetics from the standpoint of blood-changes we conclude that nitrous oxid causes no permanent effects of any significance; that ether causes more harmful effects (slight anemia and marked decrease in coagulation time); that chloroform causes the most harmful results (hemolysis and production of a distinct anemia).

The work of Evarts Graham was undertaken as a part of a general problem on the occurrence of various postoperative lung complications, in which we have been specially interested, and was directed to the study of the influence of ether on certain processes of immunity. His conclusions contained in his complete paper[2] are in part as follows:

1. In his experiments the phenomena of bacteriolysis and agglutination were unaffected by ether.

2. Ether, as given for anesthetic purposes, reduces the property in human and rabbit blood of promoting phagocytosis of streptococcus, pneumococcus, staphylococcus, colon and typhoid bacilli. This effect is easily studied *in vitro*.

3. The period of depression of phagocytosis after ether anesthesia is variable depending on many factors.

4. This reduction is apparently due to a direct action of the ether on the serum and leukocytes.

5. The explanation of this action of ether is not clear, but the experiments suggest the possibility of its being due to the fat solvent power of ether.

6. Lecithin in small amounts *in vitro* and also when given subcutaneously counteracts the inhibitory effects of ether.

7. Olive oil *in vitro* and *in vivo* when given per rectum seems to exert the same effect as lecithin in counteracting the inhibition of phagocytosis produced by ether, but to a less degree.

The recent paper of Dr. Isabella Herb[1] is a practical one on the administration of general anesthetics and is on the whole a plea for simple uncomplicated methods of anesthesia, and for placing this important part of surgical work in specially trained hands, a position to which I am thoroughly converted.

From these special studies and from a review of the literature, we shall attempt to draw conclusions which will assist in the selection of anesthetics.

In regard to the immediate safety and deaths on the table, we find in Hewitt's work on anesthetics, in over one million anesthesias, the following:

	Cases	Deaths	Death-rate
Chloroform	676,767	214	1 to 3,162
Ether	407,553	25	1 to 16,302

In 80,255 anesthesias at St. Bartholomews in London, from 1875 to 1890, there were:

	Cases	Deaths	Death-rate
Chloroform	42,978	33	1 to 1,300
Ether	37,277	4	1 to 9,319

Hewitt believes from his studies that ether is about six times as safe as chloroform. From the standpoint of immediate danger, therefore, the evidence is conclusive that no surgeon or anesthetist has the moral right to use chloroform in preference to ether unless in the special case there are special and peculiar conditions which make the use of chloroform in that particular case safer for the patient. The greater immediate danger of chloroform has been for a long time recognized and admitted even by its advocates. Until comparatively recently, especially within the last five or six years, the champions of chloroform asserted that this greater immediate danger of chloroform was more than offset by the fact that chloroform produced no bad after-effects and that, whereas chloroform killed some on the table, ether killed more in the week or ten days following anesthesia from ether nephritis and ether pneumonia. Let us analyze this claim.

The facts in the present state of our knowledge seem to be that both chloroform and ether can produce injurious effects on the kidneys, and the evidence seems to show that chloroform is just about as injurious to kidney tissue as is ether.

A more careful study of the so-called anesthetic pneumonias, which we have made on our service, has led to

1. Favill and Bevan: Acid Intoxication and Late Poisonous Effects of Anesthetics, THE JOURNAL A. M. A., Sept. 2, 1905, p. 691.
Bevan: Nitrous Oxid as an Anesthetic in Major Surgery, THE JOURNAL A. M. A., July 20, 1907, p. 197.
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the conclusion that many of them are independent of the general anesthetic employed and should be called not anesthetic pneumonia, but postoperative pneumonias. For instance, Mikulicz found that in one hundred operations on the stomach done under local anesthesia, with cocain, there were as many or more resulting pneumonias than occurred in another series of one hundred done under a general anesthetic. I think one can now say that for the most part postoperative lung complications are autogenous infections; that, as Dürk has shown, the patient carried the specific germ cause about with him before and at the time of operation, and that traumatism or chilling and lowering of the vitality and the resistance, as Graham has shown in the fall of the opsonic index, is the factor responsible for the development of the pneumonia. In the hands of an expert anesthetist and with proper precautions against chilling, etc., there is, in my opinion, little if any more risk of pneumonia after a properly conducted ether anesthesia than after a chloroform anesthesia. On the other hand, it has now been shown that the late serious poisonous effects of chloroform on the liver are common, at least by no means rare, and that they are often fatal.

Our studies of such postoperative complications as femoral thrombosis, lung infarcts and pulmonary embolism seem to show that these complications are the result of trauma and low-grade infections, and independent of the anesthetic employed. Rosenow, on Dr. Billings' service, found in three cases of postoperative thrombus and embolism a pneumococcus of low virulence, with which he succeeded in producing similar thrombi in animals. In this connection the very interesting fact demonstrated by Hamburger and Ewing must be further investigated, i. e., that ether produces a more rapid coagulation of the blood, from seven to four minutes, most marked from the seventh to the tenth day.

Looking at this subject of the late injurious effects of general anesthetics as a whole, including postoperative lung and kidney complications, and fatty degeneration of the liver from chloroform, I think we must conclude that the secondary late bad effects are quite as numerous and more serious after chloroform than after ether. If these facts are true, chloroform has no longer any claim to recognition except in special cases.

Nitrous oxid, until comparatively recently, has been in the hands of the dentists for short anesthesia, although, as already referred to, Edmund Andrews showed as early as 1868 that it could, in a mixture with oxygen, be used for long anesthesia. In the last five years, nitrous oxid has been used more and more in this country. It has had great vogue and has become a fad in the hands of some men who have advocated it as the routine anesthetic in surgical work. Let us attempt to weigh the evidence and assign to nitrous oxid its proper place.

Nitrous oxid for short anesthesia is the safest anesthetic agent known. It has a very considerable field of usefulness and I think that it can very properly be said that a surgical clinic which does not find frequent use for nitrous oxid is, from the standpoint of anesthesia, a badly conducted surgical clinic. In the setting of fractures, in reducing dislocations, in opening abscesses, in breaking up adhesions, in many minor operations of short duration, it is clearly the anesthetic of choice. In longer operations which must be done on patients with impaired kidneys, in whom the possible irritation of the kidneys by chloroform or ether must be avoided, nitrous oxid with air or oxygen offers us the safest anesthetic. In patients who are extremely bad surgical risks as in typhoid perforation, grave general peritonitis, intestinal obstruction, etc., it frequently is the safest anesthetic and is to be selected.

On the other hand, I am of the opinion that patients with bad heart lesions, with broken compensation, are not good subjects of nitrous oxid, as I have heard of a number of deaths in this class of cases and I believe that in such cases ether, if properly given, is preferable.

The effort to make nitrous oxid and oxygen the standard anesthetic in a surgical clinic is, to my mind, ill-advised. Nitrous oxid is far from being an ideal anesthetic. It does not produce in many cases sufficient relaxation, it is uneven in its action, and in some cases the anesthesia is not complete and the surgeon is required to work at a disadvantage. In the ordinary case in which the patient is a good surgical risk, a properly given ether anesthesia is quite as safe for the patient and much more satisfactory for the surgeon than nitrous oxid.

In this connection, I wish to protest against the complicated expensive apparatus for nitrous oxid, oxygen, ether and chloroform sequences and mixtures, which are now being foisted on the market by instrument makers. They are too complicated and cumbersome. It would be necessary only to add to some of these a carbureter and a magneto, and you would have as complicated an apparatus as a 1911 model automobile. The simple cheap stands for gas-tanks and face-mask are much to be preferred.

Local anesthesia has a considerable field of usefulness. In minor operations on the extremities, where the blood-supply can be controlled with a rubber bandage; in circumcision, especially in the adult; in some special operations like ligating arteries in exophthalmic goiter; in tracheotomy, for carcinoma of the larynx and occasionally in hernia operations, especially strangulated hernia with the patient in bad condition, it may become for special reasons the anesthetic of choice. In doing any considerable operation under local anesthesia it is well to give the patient from 1/6 to 1/4 gr. of morphin and 1/150 to 1/100 gr. of scopolamin (hyoscin) a half hour before the operation, and the solution which I have found very safe and satisfactory for the infiltration is 1-1,000 cocain in normal salt with 1 minim of 1-1,000 epinephrin to each 100 minims of the solution. In the majority of these operations less than 100 minims, which represents less than 0.1 grain of cocain, is sufficient, and this amount of cocain is perfectly safe.

Spinal anesthesia, to my mind, has little or no field of usefulness. It is dangerous; it is often incomplete; it often necessitates the use of ether or some other general anesthetic to finish the operation. The after-effects, such as vomiting, headache and the symptoms of the so-called aseptic meningitis, are often severe and distressing. The statistics show that nine deaths occurred in the first 1,000 cases. From what I know of the evidence on spinal anesthesia, and from what I know of the anatomy of the spinal cord, I would under no circumstances, which I can now conceive of, choose spinal anesthesia for my own case if I required a surgical operation. The fiasco of Jonnesco in this country a short time ago was a strong argument against spinal anesthesia. After Jonnesco's spectacular demonstration at the Cook County Hospital in Chicago, some of the attending surgeons tried the method in a few cases. The fifth patient, who had a simple fracture of the patella, died from a moderate dose injected in the mid-lumbar region. It is an interesting physiologic and pharmocologic fact that anesthesia can be produced by spinal injection of

cocain, stovain, etc. It is too dangerous and too unsatisfactory a method ever to supplant our present methods of anesthesia. It should be limited to an exceedingly small field. I am quite in accord, too, with Keen's statement:

> The ideal anesthetic will not be one which will abolish pain without abolishing consciousness. To have the patient aware of surgical emergencies which test even a veteran operator's skill and resources to the utmost would frequently invite death by the terror which it might occasion. The ideal anesthetic will abolish pain by the abolishment of consciousness, but without danger to life.

What of scopolamin and morphin? In the early work with this combination several years ago, where complete anesthesia was sought from these agents alone, the mortality was so great that the method was soon abandoned and the method remains now with us simply as the first part of some sequence, such as the morphin-scopolamin-ether, or the morphin-scopolamin-nitrous-oxid-ether sequence.

My anesthetist, Dr. Herb, after an experience in 15,000 cases, protests against the routine giving of drugs before ether or chloroform anesthesia. She says: "In selected cases it may be of value, but the use of morphin with atropin or hyoscin (scopolamin) is absolutely detrimental in many instances." It is a well-known therapeutic fact that one drug may augment the action of another and this is especially so in the morphin-scopolamin-ether or chloroform combination. Consequently, an overdose is more easily administered. In case of any untoward accident there is not only the volatile and quickly removable drug, but also the non-volatile and comparatively permanent one to be eliminated.

Not the least of the objectionable features of drugging before general anesthesia is the masking of the most valuable of all guides in anesthesia, namely, the pupillary reaction. Morphin allays the reflex excitability of the air-passages, retards coughing, favors the retention of aspirated blood or vomitus in the trachea which predisposes to pneumonia. Many people are not able to take morphin without distress and vomiting and in such individuals the disagreeable after-effects of ether would be aggravated.

The giving of the anesthetic in a surgical operation is a very important function and it should be in competent trained hands. A thoroughly qualified professional anesthetist is an indispensable member of a modern surgical team. In this country we have too long left this important function in the hands of the junior intern. The difference between the safety of the patient and the comfort of the operator in a clinic in which the anesthetic is in the hands of a trained professional anesthetist, as compared to a clinic in which the anesthetic is in the hands of a junior intern, whose term of office is but a few months, is so enormous that one who has had the services of a skilled anesthetist would never voluntarily return to the unskilled intern anesthetist.

Every hospital should have trained professional anesthetists. The interns should be instructed by a professional anesthetist and they should give many anesthetics under supervision so that they can learn how it should be given; in a teaching hospital, senior medical students should be given practical instruction in the use of anesthetics, but the trained anesthetist should be present and be responsible for the anesthesia.

Women, I think, make the best anesthetists just as they make the most reliable and conscientious operating-room nurses. In these days of modern surgery, the responsibilities and the functions of the skilled anesthetist and the head surgical nurse are little less important than those of the operator himself.

In answer to the question, how we are to secure the safest and most satisfactory anesthesia, I would from this study submit the following conclusions:

1. The anesthesia must be placed in trained professional hands.

2. The methods of giving the anesthetic and the apparatus employed should be as simple and uncomplicated as possible.

3. The anesthetic mixture and sequences, like the old shot-gun prescriptions of the past, should be avoided, and the patient's life not jeopardized by the administration of two or more powerful poisonous agents at the same time one of which might intensify the action of the other, or mask the ordinary danger signals.

4. For routine work, ether, by the open or drop method, is the safest and most satisfactory anesthetic and in the usual run of cases in a hospital service the anesthetic of choice, in from 75 to 80 per cent. of the cases.

5. Chloroform must be discarded as a routine anesthetic. It produces too many immediate and late deaths to warrant its general employment. It is only in the exceptional case, as possibly in a laryngectomy in which one might feel that the direct introduction of chloroform vapor into the trachea might produce sufficiently less irritation to the tracheal mucosa with less risk of pneumonia than ether, that we would be warranted in employing it.

6. Nitrous oxid is the anesthetic of choice for short operations, manipulations and examination. It is also the anesthetic of choice in operations on patients with seriously impaired kidneys and often in cases in extremely bad condition as typhoid perforations, general peritonitis, etc. It should not be employed in patients with bad hearts. It is not so satisfactory an anesthetic as ether and it should not be employed in preference to ether in patients who are good surgical risks.

7. Local anesthesia with cocain and similar agents has a limited field of usefulness. The amount of cocain employed by infiltration should always be short of a toxic dose, from 1/10 to 1/4 of a grain. It should be employed in normal salt solution with small amounts of epinephrin. Where the amount does not exceed 1/10 of a grain it may safely be preceded by a small dose of morphin and scopolamin.

8. Spinal cord anesthesia has to-day no place in surgery.

9. The use of morphin and scopolamin (hyoscin) before a general anesthetic brings with it dangers which are not compensated for by any advantages, and the method should be abandoned or limited to specially selected cases.

10. Finally, I believe that the time has come when we must here in America make a place for the trained professional anesthetist on our surgical team.

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Non-Secrecy of Medical Methods.—At a day when it was usual to keep as a secret any medical or surgical discovery, Paré thus affirms: "For my part, I have shared freely with all persons the gifts which God has conferred on me. And for that I have not the less; just as the luminosity of the candle is no whit diminished, although many come to light their torches."

THE CARE OF PATIENTS WITH ADVANCED TUBERCULOSIS

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There are certain peculiar features about advanced cases of tuberculosis which are often lost sight of in our discussions of their care from a theoretical standpoint. These features are, it seems to me, essential to consider before practical application of our present schemes can be adopted.

These features may be tabulated as follows:

1. Advanced consumptives are sick and provision for their care must include an equipment for their continuous stay in bed and adequate nursing under such conditions.

2. They are wanted nowhere: Our ordinary institutions for the care of the sick refuse them; sanatoriums for the tuberculous refuse them; private practitioners want to get rid of them; boarding-houses and homes discharge them without compunction.

3. Few of these patients can ever be so built up that they can return to their former occupation, for while many recover sufficiently to do light tasks and live an average lifetime, their working hours are much reduced and their ability to do heavy work or sell eight or nine hours of their time to an employer, day in and day out, is gone forever.

4. Many of them, under the supervision of strict medical care, and especially of sanatorium regime, live for many years quite unable to work. These patients do not remain long in sanatoriums after recovery has progressed this far.

5. These advanced subjects are sources of infection if they are the least bit careless, and, submitted to the scrutiny and remarks of acquaintances, they are very apt to become careless.

6. Subjects of advanced tuberculosis in this country, and in most other countries, have the rights of citizenship, and can and do refuse daily to accept the opportunity open to them of institutional care even for a few weeks or months. This fact makes the provision of large institutions far from centers of population much less valuable than it might otherwise be.

7. Those patients who are so far recovered as to be capable of varying amounts of daily work of a certain character owe this work to the community for their care. All work done in excess of the amount necessary for their care should be paid for. I cannot but feel that provision for such work should be made for the good both of the patient and of the community. The difficulty, of course, arises mainly in determining the character of the work to be offered to such patients. As Lyman has pointed out, it is difficult to get returns by transplanting men who have been trained to one class of work to labor of another kind. Still, I think this problem can be worked out so as to bring results. I am sure of one thing, however: that in the majority of instances the returns will never come out of gardening or farming.

With regard to the necessity for the care of patients with advanced tuberculosis, much can be adduced to show that a marked reduction in mortality from tuberculosis can be attained without such provision, or at least where no such provision has existed. On the other hand, the burden of proof is to indicate that the efficient and practical care of advanced cases is one of the important elements, if not the most important element, in our endeavor to control this disease. I think so from the fact that we preach it; that we adduce statistics to prove it; that we quote the opinions of men of authority to urge it and that we are practically all agreed on its necessity.

If this be not so from the standpoint of control, I would ask no greater argument for the efficient provision for the care of such cases than the dire necessity which is evidenced by the pitiable condition under which this excommunicated portion of our populace exists. They are shunned by every port of human habitation. They have no place to lay their heads. Even those places built for the care of the sick, which should most welcome them, refuse them admittance. Take, for example, the modern sanatorium; every one of these refuses yearly more cases than it accepts because these cases are too far advanced for admission, and if, by chance, they admit such a patient who is careless, he is summarily discharged to spread the infection broadcast. Such arguments have forced me to conclude, without any other argument, that the care of patients with advanced tuberculosis is the most essential demand of modern tuberculosis work.

Before entering on what I would consider a model armament for the care of advanced cases, I think it would be wise to attempt some classification of the cases as they exist from the standpoint of taking practical care of them. In the majority of minds the thought of segregation and institutional care is the sole remedy, and yet this is as impossible as it is unpractical. It is made unpractical by the varied nature of the cases to be dealt with. One advanced case, in the ordinary acceptance of the term and under like conditions, is as infectious as another. No one would claim, however, that an advanced consumptive in arrested and fibroid state, with an earning power equal to much more than the demands of himself and his family—an earning power based on brain power which can be exercised without endangering or shortening his life—should be segregated in an institution; yet I know such patients who daily, in office, home and club, spread infection by expectoration in the most dangerous way. Such patients have been told a hundred times of the danger they spread, but with a carelessness and a maliciousness born of power they scatter their germs in the nostrils of a helpless public. Such persons are just as dangerous as the poor foreigner whom the law in some states can claim and incarcerate for a similar offence.

Without further example or detail the cases submitted for care are as follows:

1. The dying patients whose early doom is written on their hectic, hollow cheeks.

2. The patients whose span of life is yet six months to three years of bedridden invalidism.

3. The patients who still have five to fifteen years of intermittent, much-reduced earning power.

4. The patients with fibroid tuberculosis, whose lives will in no wise be shortened by their tuberculosis and whose earning power is but little reduced.

5. The patients with advanced disease, whose wealth admits of their being under private care where they wish, in home, hotel or sanatorium. Such patients may be dying, chronic or intermittent in type.

6. The malicious patients, wealthy or poor, with advanced tuberculosis.

On this classification it may be remarked:

A. All subjects carry danger with them to be spread when their habits are careless, and no provision can be perfect which neglects any single class.

B. No single type of institution will handle all cases.

C. No voluntary power can handle more than a small percentage of any class. The law must eventually be the means by which this infection is controlled.

Adopting this classification I cannot but feel that the first move to secure desired results in this work must be the return of the care of these, under proper provision, to the general hospital. The reasons which make this provision necessary and of the first importance in securing efficiency are:

1. Only in this way is it possible to educate the members of our profession, our medical students and our nurses from whom tuberculosis work has been so much dissociated during the past ten years; and, after all, it is only through these groups that we can attain proper care and supervision. As the matter stands to-day, in the vast majority of instances the patients who come to the dispensaries and hospitals come voluntarily because they themselves, or their friends, have suspected their malady when it has reached an advanced stage. This is essentially wrong, as is, in fact, the whole attitude of our profession toward this disease. The constant advice from doctors to nurses and others who are called on to work in this field is one of the main deterrents to efficient work. By no group of men is this disease and the institutions dealing with it viewed with such prejudice as by the medical profession, and it is impossible to obtain results until this is eradicated. For this reason, if for no other, I consider it essential for the general hospital to establish wards or pavilions for the proper care of these patients and for the instruction of those who have primarily and persistently to deal with the tuberculous sick.

2. These institutions regularly admit tuberculous patients who are suffering from other intercurrent maladies to their wards for operations, for confinement, etc., and make no provision for their supervision and the prevention of infection. I have repeatedly seen within the year, in the service of our best surgeons, subjects of advanced tuberculosis, undiagnosed, in beds in hot, dry wards, who expectorated in handkerchiefs, stuffed these handkerchiefs under their pillows where the sputum readily dried, and I have seen these pillows turned and smoothed by nurses without the least fear or care. Could anything easily be worse in an institution for the care of the public's health? Worse than this, most of the general hospitals will admit patients with consumption to private wards provided these patients are wealthy enough to pay for private rooms and nurses, and I seldom see adequate provision for proper care and prevention of infection. Under these conditions I feel, therefore, that general hospitals should make proper provision for such cases and give careful printed instruction and adequate education for the care of the tuberculous to all whom they seek to educate. Many patients would willingly go to such institutions without the fear which our crusade has engendered in the minds of profession and laity alike, and could be educated and instructed here as well as elsewhere.

There need be no fear of infection spreading from these cases when properly cared for. Less danger by far could come from these patients under proper instruction than under conditions as they exist to-day, or from many of the cases now cared for in medical wards.

3. In such institutions there is already the nursing force, the medical care, the administrative equipment and the situation in the centers of population which are so necessary for the care of advanced cases of tuberculosis and which are so great a part of the expense of such care.

Let me here interpose again the feature of training our doctors and nurses. On the fingers of one hand can be counted to-day those schools in which adequate education is given to medical students. The Universities of Pittsburgh, Pennsylvania and Johns Hopkins are among the most efficient of these schools, and, so far as I know, the Tuberculosis League of Pittsburgh is the only organization giving a broad education to nurses in all departments of municipal tuberculosis work. How can such a problem be handled when we so shamefully neglect the very people who are to handle it?

Next to this provision for a certain number of advanced cases in general hospitals and the great value accruing from it, I would urge proper provision in all county, state, municipal and charitable institutions such as asylums, jails, poorhouses, prisons, orphanages, homes, etc. Such provision would take proper care of another large number of advanced consumptives who are still in large part neglected and, as I know from personal experience, do much to spread infection under existing conditions. I am aware that something has been done in this regard; but the completion of the work I would consider one of the first duties of the state and municipal departments of health. Such provision for a second large group of cases is enhanced by an equipment of nurses, doctors, administration and location which need not be duplicated.

The third necessity—and I consider this easily third in importance—is the provision of separate institutions for the care of patients with advanced cases. These, to be successful, must have certain requisites:

1. They must be near the centers of population, easily reached by patients and patients' friends.

2. They must be provided with an adequate nursing staff.

3. They must be prepared to keep these patients indefinitely. Short stays are, I consider, of small value and patients should be allowed to stay until death intervenes.

4. They must provide for and demand some sort of work from those who are able to do some work but unable to sell their time as required by regular employers.

5. They must accept pay for care from those who are able to pay for support. This is necessary for the tone of the place as well as for the morals of the patients.

6. These institutions must be of varied sorts, some provided by states and county in conjunction, some by municipalities; some by charitable organizations, some by private corporations. This is necessary because no one institution can care for all social and racial classes, and no provision is adequate that neglects any one class of cases.

The fourth provision for the care of advanced tuberculosis is that necessary for the patients who are to remain in their homes. By far the largest number of patients with advanced tuberculosis will always be cared for in this way and it is here undoubtedly that the greatest good can be done.

To accomplish results in this field we have already the means in our corps of tuberculosis nurses.

The great weakness in this branch of work to-day is the multiplicity of agents at work and the lack of organization among them. In Pennsylvania the most serious difficulty in the way of progress of organization lies in the pettiness and jealousies existing between the local state, municipal and charity organizations, and until such are removed efficiency cannot be attained. There is so much for all to do which no one agency can ever do alone that it is a great pity that this condition exists.

The first necessity, I think, is for division of labor and proper apportionment of territory. This was pro-

vided for in Pittsburgh by the formation of a commission on which all factors, state, municipality and charity, were represented and a stocktaking of the city was accomplished; but when the division of work was proposed, both state and municipality withdrew and the accomplishment of this desirable end is still in the future.

To the charities I think it would be wise to delegate small territories which could be worked intensively in such a way that the results would guide future movement and progress by larger agencies.

The state (by virtue of its legal status) must have supervision over the whole field, but should, I think, guide, direct and demand local efficiency and autonomy rather than paternally provide the whole ammunition.

The municipality should carry out its labor in accordance with the state law and under its guidance. All reports of cases and work done by all agencies should be centralized in the state department of health, and from here, based on these figures, should emanate from year to year the plan for the state.

To sum up, then, my views on the care of advanced cases are as follows:

1. Provision must be made for all social and racial classes.

2. Provision must be made in general hospitals for a group of cases, mainly for its educational value on doctors, nurses and the public.

3. Provision must be made for a second large group of cases in state, municipal and charitable institutions.

4. Provision must be made in special institutions provided by state, municipality, charity and private means for a third group.

5. Provision must be made for a final group by instruction and care in the homes by doctors and nurses.

6. Small institutional units are of more value than large institutions.

7. All cases must be registered in the health department of the state. The state must supervise and control the whole movement. It must do this through its local agencies and subdivisions (I mean municipalities and counties) and make certain demands from charities and other similar agencies for uniformity of plan and apportionment of work.

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THE BLOOD-PRESSURE IN PNEUMONIA*

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The treatment of pneumonia is still so empiric that any observations which may tend to assist in the treatment of this disease are worth reporting. A few observations on the blood-pressure in some forty-eight cases of pneumonia in adults are, for this reason, offered for consideration. The reports on the blood-pressure in pneumonia vary so greatly that there must have been heretofore great divergence in instruments used or an insufficient number of observations to enable any one to gather together into a connected whole the observations that have been made. Some observers class pneumonia as a disease with normal pressure, others as one with hypertension, and still others as one with abnormally low pressure. Giglioli reports some fifty cases measured with the Riva-Rocci instrument, and states that in favorable cases the changes in pressure were slight. In severe cases the fall at the height of the disease on the fourth or fifth day was down to 80 or 90 mm. of pressure. In fatal cases rapid fall of pressure with dilatation of the heart is recorded. Others have found that a slight hypertension occurred during the first day or so, that in serious cases there was the rapid fall, the practically normal run of pressure in favorable cases, and that in favorable cases the pressure slowly returned to normal in convalescence. A drop down to 90 mm. of mercury has been considered of serious import. Gibson of Edinburgh, in studying the relation of blood-pressure to pulse and respiration, has endeavored to make some rule that would be of assistance in the treatment of pneumonia, or at least could be used as a warning of a beginning lack of equilibrium in the cardiovascular circulation, or even heralding a collapse. He has concluded that as a general rule, the pressure in pneumonia is a little below normal with considerable variations throughout the course of the disease. The sudden fall of blood-pressure at the crisis has not occurred in Gibson's experience; hence, though reported by other observers, it cannot be very common. A pressure that is appreciably below normal is invariably of evil omen, and any considerable fall bodes disaster — and he sums up his experience in the following well-expressed observation:

> When the arterial pressure expressed in millimeters of mercury does not fall below the pulse-rate expressed in beats per minute, the fact may be taken as of excellent augury, while the converse is equally true. That is, when the pulse-rate per minute is higher than the pressure of the millimeters of mercury, the equilibrium of the circulation is seriously disturbed.

C. A. Gordon has confirmed the practical value of Gibson's rule.

The following observations in forty-eight cases of pneumonia have been taken with a Janeway apparatus in Bellevue Hospital, and there has been an endeavor to take a daily measuring of the systolic blood-pressure of each patient. This has not always been possible, but in the cases which are reported a sufficient number of observations have been taken to give a fair judgment of the condition of the pressure in the course of the disease. These cases include both bronchopneumonia and lobar pneumonia, there being eight cases of bronchopneumonia and forty of lobar pneumonia. The ages have ranged from 13 to 78 years. They have been taken as they came to the hospital, of all ages, both sexes, and all conditions of life such as are found in an active general hospital service. They include the mild and moderately severe as well as the fatal cases — those of patients who were total abstainers from the use of alcohol, who used it in moderation, and who used it to excess. Of the eleven fatal cases which occurred, ten were among those who used alcohol, the other patient being a total abstainer. In such a small number of cases as here reported one hesitates to generalize, and one's observations must be recorded as facts and occurrences which may or may not be further corroborated. In the mild cases, in which there did not seem to be much toxemia, the disease did not seem to change the blood-pressure from the average normal in young adults, 120 to 130; it remained normal throughout their attack. In some young adults whose pulse remained below 120 and the blood-pressure remained above 105 during the disease, while there was no change at the crisis in the pressure, it fell below 100 after convalescence had set in, the pressure really being lower in convalescence than during the disease. These

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

patients all recovered. In others the pulse remained below 120 and the blood-pressure below 105, and as soon as the crisis occurred and convalescence set in the pressure quickly and steadily rose to 120 to 130 mm. In no case did we see a sudden fall of pressure at the crisis. In some of the severe cases the blood-pressure has been low, the pulse, temperature and respiration very high, and this ratio has remained persistently throughout the disease. These are the cases in which Gibson's rule is the most noticeable and the patients are very ill and recover or die as the case may be. In those patients who recovered the pulse usually diminished in frequency before the blood-pressure rose. In some few instances the reverse occurred. In other patients neither the temperature nor the pulse ran very high, and the blood-pressure was very low, below 100; still the ratio of Gibson's rule did not point to a bad prognosis, that is, the pulse-rate remained below the millimeter pressure of mercury. These patients recovered and the pressure persisted very low in their slow convalescence. In some patients suffering from chronic nephritis, the blood-pressure remained above 150 mm. but was distinctly lowered by the pneumonia. Some of these patients recovered and some died. In those who recovered the blood-pressure rose after the crisis. In other patients with nephritis, the blood-pressure has remained high (200 to 180) and yet the patients have died. In the cases of elderly patients with arteriosclerosis and in some cases of chronic nephritis, Gibson's rule did not hold good, and yet many of these patients died. The readings of the blood-pressure gave no hint of the cardiac failure. Taking the forty-eight patients, it is interesting to note that twenty of the forty-eight showed Gibson's rule, and of these six die. Of the twenty-eight that did not show Gibson's rule, five died. As expressed in percentages, this shows that of those who showed Gibson's rule, 42.8 per cent. died, but of those who did not show it, 17.8 per cent. died. It is interesting to note among those who showed Gibson's rule that not quite half were alcoholics, and among those who did not show it not quite three-fourths were addicted to alcohol; but then among those who did not show it are included the arteriosclerotics and the nephritics, which further disturbs the ratio of blood-pressure and pulse-rate.

In summing up the subject Janeway remarks:

> When one pictures the possible causes for variation in lobar pneumonia, the difference in individual reaction to the toxemia and in extent of lung tissue involved, the motor restlessness of some patients, the urgent dyspnea of others, and the great likelihood of an asphyxial rise of pressure where cyanosis is extreme, there is little wonder at these somewhat discordant results.

Looking at the figures alone in print without the patients, the results do seem extremely variable and discordant, but from impressions formed at the bed-side of watching the individual patient, of judging carefully the wisdom of this or that order for medication, and using the knowledge obtained from the blood-pressure as well as from the pulse, temperature, and respiration and general appearance of the patient, the impressions left are not so discordant as the mere grouping of types would seem. In the patients who were non-alcoholic, even among those who had passed the resistant stage of youth, Gibson's rule seems to hold particularly true. With an undisturbed blood-pressure, and with a pulse-rate well below the millimeters of mercury, one may feel easy in mind concerning the outlook, but where the pulse-rate runs higher than the millimeters of mercury of blood-pressure, there is a very distinct warning and danger-sign that cannot be disregarded. After convalescence has set in, the pulse-rate, however low the blood-pressure may be, usually remains well below the millimeters of mercury in number. Patients who have arteriosclerosis, and who have chronic nephritis, are not apt to show Gibson's rule, but the danger of cardiac failure is none the less very great. In the eleven fatal cases here recorded, five showed Gibson's rule and six did not. One cannot, therefore, attribute the break-down of the cardio-vascular equilibrium to one cause only, as many are apt to do. We hear much of vasomotor paralysis in pneumonia and infectious disease, and the figures here presented undoubtedly show that it is common enough in pneumonia, but it is not the only cause of fatal termination. The pressure may remain up, and there may be no vasomotor paralysis until a few moments before death, and the cause of death be due to a failure of the intrinsic muscles of the heart. I have often been struck, at the necropsy of patients who had died from what seemed to me a disproportionately small amount of infection in pneumonia, with the frequency in such cases of the brown friable heart muscle which seems to be summed up pathologically as brown atrophy. The great proportion of degenerated heart muscles in alcoholics has as much influence in the increased fatality of pneumonia in these patients as vasomotor paralysis. Of the eleven fatal cases here reported, one-half showed vasomotor paralysis, and half did not. The measurement of blood-pressure, therefore, will decide often the question of whether we should look to the heart or the blood-vessels to reestablish the equilibrium of the circulation. One hears recently a great deal about the use of epinephrin in cardiac failure in pneumonia, but unless one knows whether it is a vasomotor paralysis with a low-tension pulse, or a cardiac failure with a high-tension pulse, one certainly cannot use it intelligently, for while it is wise to give it with a low tension and it undoubtedly has done good in many cases in which this has been the factor against which the epinephrin was working, it is unquestionably poor judgment to use it with a patient whose blood-pressure is already high, and whose heart is struggling without sufficient reserve force against too great a strain. On the other hand, one sees a mixture of strychnin, camphor and alcohol given to raise a falling blood-pressure. One cannot acquiesce in the wisdom of this, for therapeutically it is a neutral mixture. The alcohol will dilate the vessels and reduce the blood-pressure vastly more than the strychnin and camphor can raise it. I have heard it reported that such a mixture had been given all day to raise the blood-pressure, and the situation saved by epinephrin. One always wonders if the epinephrin would have been necessary if the alcohol had been left out. It is also a grave question whether alcohol is advisable in pneumonia until we know whether the blood-pressure is high or low, for if it is lower than normal, we certainly should not desire to further reduce it by such an effective means of lowering the blood-pressure and dilating the vessels as is alcohol. There certainly are patients with whom we are required to use all the means in our power, as camphor, strychnin, digitalis and epinephrin, to prevent a vasomotor collapse, and there are other patients with whom we must equally endeavor with vasomotor dilators to reduce the tension in the pulse to the amount against which an overstrained heart can best work and carry on its share in the equilibrium of the circulation. The blood-pressure instruments to-day are of such convenience that they offer the easy opportunity to ascertain at a visit these facts. A

knowledge of the blood-pressure in pneumonia will often be of assistance in judging of prognosis and of treatment. These are the two vital points to the patient.

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ABSTRACT OF DISCUSSION

DR. WILDER TILESTON, New Haven, Conn.: With regard to the blood-pressure in cases of pneumonia, I do not think it has much value in prognosis. At a recent meeting of the American Society for the Advancement of Clinical Investigation Dr. Sailer reported the results of a study of the blood-pressure in pneumonia, and he found that most cases of patients who died did not follow Gibson's rule. I do not think that sufficient data have been accumulated to lay down definite rules regarding the importance of the blood-pressure in determining the prognosis in pneumonia.

THE TREATMENT OF CHRONIC HYPERTENSION *

L. G. VISSCHER, M.D.
LOS ANGELES

It is with the treatment of chronic hypertension as with that of glycosuria or fever, or even pain; it should not, *per se*, be treated away, not artificially kept down, but watched as a valuable sign of most complex disturbances, of which we may or may not alter or eradicate the causes. Verily, to reduce hypertension is not its treatment; to maintain it will often be our task, as in cerebral arteriosclerosis and initial interstitial nephritis, in which increased blood-pressure is indispensable, and in which efforts to reduce tension would only aggravate the condition. In fact, there is in all pathologic hypertension a limit of irreducible tension which is above normal, but below which interference would disturb the cardiovascular equilibrium. To be guided by our *nil nocere* is a matter not only of academic dignity but of the most practical value. Too often are misery and discomfort added to existing derangement and disease, through half knowledge and vain efforts; this is done in direct ratio to the number and potency of our agencies of treatment. Luckily we have not at our command powerful or lasting means or remedies to reduce blood-pressure, the application of which would not bring about such discomfort as to warn the patient that too much of a good thing is received.

"Hypertension" and "hyperpiesis" are new words, but as the conditions thus baptized can be dated back to the time of the Prophets with only slight increase in actual means of treatment, we may go back to the storehouses of time-honored customs and proverbial advices. Next in importance to an equanimity of living, a moderation of working, a cheerful indulgence in minor transgressions (within bounds of righteousness) appears the complex task of regulating diet and breathing; consideration should be given to the toxic aspect of deranged digestion and faulty metabolism, the dynamic side of disturbed intra-abdominal pressure, in relation to diaphragmatic position and excursion and the loosening or tightening of the splanchnic vessels during digestion.

For actual treatment, only people past 40 ask our counsel; to the younger generation it is our duty to spread the warning word. We warn the young men against excessive smoking, chronic overindulgence in meat, the strenuosity of motoring, insufficiency in water-drinking, the revolting habit of food-bolting, the late hours without compensation by sleep, and the irregular periods of physical strain in work or play without constant and gradual training. The young women we warn against late hours, endless social gatherings with coffee and tea, insufficiency in water-drinking, faulty attention to many inner necessities at the expense of outside appearance. The gratitude with which young men and young women, especially young mothers, have accepted and applied good advice in these matters belongs to our most cherished rewards. The young mothers, though often charmingly lacking in good example themselves, make a most commendable effort at teaching wholesome living to their children.

Chronic hypertension is more prevalent among the city population than in the country, and decidedly more among the middle class and the well-to-do; it is especially the result of continuous brain work without let-up or country air, and perhaps overstimulation by coffee, nicotin, alcohol and manifold overindulgences.

Among the toxins which cause hypertension, the purin bodies stand high. They will flood the tissues, whenever proteid metabolism is disturbed, or after direct introduction of food-stuffs, containing abundant nucleins; that is, much meat, kidneys, liver, sweetbreads, brains, caviar, cured meat, sausage, gravies, old cheese, broth, mushrooms, peas, veal, and the like. It is necessary to alter the diet list in this line of restriction; in senile arteriosclerosis, such a radical change in alimentation will soon be followed by weakness without noticeable impression on the pulse. In fact, hand in hand with the manometric examination should go the determination of urea, indican, and the acid-titer of urine in order to determine the proteid-tolerance of our hyperpietics. Among the end-products of proteid metabolism are uric, sulphuric and phosphoric acids, insufficiently neutralized by the mineral bases introduced with the food, if ample vegetables and fruits are not provided. This free acid will tend to disturb the normal neutrality of the blood and the organism will use its most powerful base, ammonia, withholding it from urea formation, and draw on its bicarbonates, monophosphates and diphosphates. The carbonic acid, being the weaker acid, becomes insufficiently transported to the lungs. Carbonic acid has high pressor qualities and enters, as such, distinctly in the hypertension of toxemia of pregnancy and of diabetes. What influence carbonic acid has on the production of hypertension and on the maintenance of normal pressure may be learned from the recent investigations of surgical shock in laparotomy by Henderson; it is demonstrated that the peritoneal serosa gives off free carbonic acid, especially into the moist, warm atmosphere of the so-called protective hot towels. In other words, it is the amount of reserve base which will determine in part the higher or lower tension of the circulation. To reduce this acidosis and to provide alkali freely by vegetable foods and soda in various ways is our task. One routine way is the administration of alkaline laxatives, since it has been demonstrated that alkalinity of the intestinal contents increases putrefaction, and since the products of this process have high pressor qualities, it is better to give non-alkaline laxatives, when indican is abundant in the urine. I have found it of distinct benefit, in cases in which the introduction by mouth of alkali increases the flatulency, to administer it by rectum once or even twice a day.

There is another side to this no-meat question: What is the patient's digestive power of meat, both in stomach and by pancreas? In achylia or subacid gastritis, hydro-

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

chloric acid will be of advantage, and the presence of striated meat fiber in the stool will point in the same direction. A frequent coeffect of laxative medication is the hurrying of albumoses into the realm of the colon bacillus, which thrives on albumoses and does not subsist on peptones; therefore, it is our task to give laxatives either early before breakfast or well after the height of digestion. *Qui bene purgat, bene sanat.* Those with the stigma of high tension on them, who suffer from dull headache, nervousness, vertigo, slight oppression in the chest unless their bowels moved that day, often at the age of hygienic introspection abandon their laxatives and take up some method of a most laborious and even ludicrous nature, e. g., a sudden change to coarse vegetable diet, the harder and tougher the better, uncooked in preference to anything, or the use of large amounts of olive oil or butter, or the keeping of regular hours for protracted morning visits to the toilet spent in prolonged straining efforts at the stool, with a rise of abdominal pressure as a consequence. These people should go more carefully in their conversion and not throw their pills away.

So widely spread is the knowledge of what the lactic acid bacillus will do, that I shall merely pass the subject with endorsement and commendation.

It is necessary that the intra-abdominal pressure shall be slightly positive, through the activity of the abdominal muscles and diaphragm under control of the respiration center. Whenever the intra-abdominal pressure rises to excess, three things will happen: first, a high stand of the diaphragm, this very valve of life, so wonderfully assisting the rising of blood in the mighty vena cava, with reduced downward inspiratory excursion, which means lessened aspiration on the cava; second, the resistance to the venous inflow from the extremities into the common iliac; third, a rise of blood-pressure in the splanchnic arteries caused by compression of the venous splanchnic area. All this takes place provided the heart is powerful. Clinically, this condition is manifest through slight dyspnea, moderate hypertension, aching limbs, torpid liver and catarrhal gastritis. When, in later stages, the heart has lost in tone, the peripheral pressure will not climb through reduced systolic ventricular output. Now, this contrast in influence on blood-pressure, dependent on whether the heart is in tone or weakened, is seen in many instances; even the same agent being a pressor or depressor in the same individual according to its quantity and duration. A hot bath will raise the pressure for the first ten minutes, and if prolonged the pressure will fall. Muscular overexertion in the racer will raise the pressure from five to ten points, and will let it sag down ten to twenty points through heart exhaustion. Tobacco to slight excess will raise the pressure, in toxic doses it will depress. Alcohol in relatively smaller doses in youth will raise pressure through heart stimulation, while in age it will through equalizing relaxation lower pressure—provided the glass be filled and emptied with wisdom, which age provides. By this relative contract in end-results of similar causes, depending on the tonicity of the heart, we must explain why the very advice we give our hyperpietic past the age of 40, with still vigorous heart, may have to be reversed later in life. The wise man at 40 saves, the wise man at 60 spends.

Even without the use of the fluoroscopic screen we can often demonstrate the high stand of the diaphragm by a fine atelectatic crepitus at the right base posteriorly.

Ample indication for treatment of this condition is given in the following causes of high intra-abdominal pressure:

1. Abundant food intake.
2. Gorged liver.
3. Chronic loading of a distended colon.
4. Gas in stomach and colon.
5. Omental fat.

The regulation of diet means a restriction in amount of sufficient caloric value, well above Chittenden's penurious level; a diet adapted both to the secretory and motor functions of the individual stomach, with especial caution against the unyielding coarse food fad and the surplus amount of liquid taken by people who are washing their system; regulating the bowels with or without laxatives, moving them in the forenoon and relieving the colon of gas in the evening by a warm enema; further attention to flatulence with the habitual use of carminatives, including the sharper spices, where kidney and bladder do not forbid their use; massage of the abdomen, circumduction of the thigh, possibly the application of the sinusoidal current, for which a very beneficial effect on intestinal atony is claimed.

In dealing with general obesity or more localized embonpoint, a good deal of caution is needed; not so much at the disappearance of the fat do we aim as at the timely prevention of its formation. When the abdominal parietes have been first comfortably filled for years, and thereafter uncomfortably stretched for some more years, the intra-abdominal circulation adapting itself more or less to it in the meanwhile, what will happen by energetic underdieting and massaging? Though the diaphragm will be greatly freed in its excursions, the flabby abdominal wall will give insufficient support and a tendency to a low intra-abdominal pressure will be manifest with a hindrance to expiratory excursion. This low intra-abdominal tension, accompanied by a feeling of exhaustion and early fatigue in our advanced and overtreated hyperpietics, is a far more difficult matter to deal with. The inferior cava output is retarded and the venous splanchnic area remains gorged, with flatulence and indigestion as a result, only compensated by a rise of pressure in the splanchnic arteries, thereby throwing back the work on the already overburdened heart. So, in a measure, we should endeavor, in spite of hypertension, to overfeed our lean patients, not forgetting that many thin people, when hyperpietic, are often big eaters and mysteriously powerful alcohol absorbers.

As hypertension is due to a narrowing of the total cross-section of the blood-channels, any change in one of the large areas of circulation will have its decided influence, especially in the areas of the skin, the musculature, and the abdominal viscera.

Within bounds of reason an ample amount of outdoor exercise is beneficial to hypertension; I emphasize a one- or two-mile constitutional before retiring, depending on the heart's tonicity and reserve force.

Warm bathing is very beneficial, both morning and evening, with cold sponge or shower thereafter; and with care, we can make use of the depressor influence of the warm carbonic acid and brine bath, which increases the pulse volume and, through opening the skin-circulation, reduces hypertension. Unless the favorite cold morning bath be followed by reaction, it distinctly harms by tightening the skin-circulation.

Most important of all, however, is that enormous territory under control of the splanchnic nerves; so manifold here are the various evidences of disturbance

and of consequent adaptation, that only minute individual observation will enable us to foretell safely the detailed influence of the most common happenings of daily life. To gauge the pressor or depressor influence of a meal, depending on quantity, quality and company; of a cigar or more cigars, of wine and more wine, taxes our individualizing acumen heavily in daily practice. While restriction or complete withdrawal of coffee, tea, alcohol and tobacco seems the safer plan, I am deeply convinced that ever since hypertension became the slogan, much wholly unnecessary privation has been forced on our patients. We cannot point out emphatically enough that arteriosclerosis and hypertension are not congruent; that hypertension particularly in interstitial nephritis and cerebral arteriosclerosis is compensatory and should be very carefully dealt with, and that the involutionary arteriosclerosis of the aged, as well as some forms of toxic (syphilitic) arteriosclerosis, is often unaccompanied by hypertension.

Extremely important, but almost common place, is the necessity for liver regulation. If I were to be left with only one drug to treat our disturbance under consideration, I should choose calomel.

There are influences productive of chronic hypertension which are to be mastered only by the intelligent conduct of our patients. It seems beyond doubt that mental overactivity stimulates both pituitary gland and adrenals which throw pressor substances into the circulation. What lack of sleep will do, and the absence of relaxation to the brain (which is the characteristic of worry), what influence on hypertension must be attributed to the well-known, though ill-admitted fact, that libido sexualis, especially in man, is kept overstimulated in city life, can only be presumed. All considerations combined, it seems that hypertension has to be met and treated more during the hours the patient is away from work than when he is at it. It is well-nigh impossible to divert the mighty current of business life, as long as ambition is met by limitless opportunity and the multifarious enjoyment of so-called excitement can be bought only by overstraining the earning power.

As to the hours of sleep, it should be better understood that carbonic acid is of high pressor power, that sleep in ill-ventilated rooms will interfere with metabolism during one-third of our life-time, a time additionally spent in the digesting and assimilation of the heaviest meal of the day. Invariably, for reasons already given, people with hypertension would do better to eat light evening meals with ease thereafter for a few hours, then take a moderate amount of physical exercise, a warm bath, perhaps a warm enema, and sleep in a warm bed with the windows wide open.

A few remarks on drugs follow: Do iodids act through reduction of viscosity of the blood (Romberg) or through thyroid stimulation? Or does the thyroid act through its iodin in organic compound? I cannot say. We know that they do reduce headache and precordial pain; they do not lower the blood-pressure in advanced hypertonic arteriosclerosis; they do everything in syphilitic arterial disease. They should be given with great caution, since Krehl's warning, in cases which show thyroid enlargement, as it has happened too often that a daily amount of 15 gr. of the potassium salt during two weeks caused very rebellious thyroidism. As iodids have to be continued for long periods, an alternation, as Elsner advises, from the sodium through the strontium and rubidium to the potassium salts will be commendable. Sajodin has been well tried; I do not care for it.

Of decided benefit is theobromin, a dimethylxanthin, a congener to caffein, a trimethylxanthin. Xanthins are pressors, still through direct stimulation of the renal tubar epithelium (if this be not diseased) in large amounts they cause a fall in blood-pressure. Diuretin acts somewhat similarly. Ever since Huchard introduced the theobromin, we have found it potent in angina and anginoid states up to 7½ gr., well distributed during the day.

Though nitrites relieve anginoid suffering they do not always do so by a general lowering of blood-pressure. After using sodium nitrite, I have repeatedly heard good reports from my patients. These reports were accompanied by higher manometric readings. MacKenzie's observation is instructive. During an attack of angina with a pulse-pressure of 190, amyl nitrite gave instant and complete relief, the pulse-pressure rising to 200. This change evidently denotes the comparative prevalent action on the coronary arteries. Still we must be aware of an angina with low tension due to dilatation of myocarditis or even aortitis. Their excessive dilatation of the cerebral vessels limits their use in hyperpietic nosebleeds. Erythrol tetranitrate I have given zealously, but had to reduce the doses greatly to prevent the violent headaches so often caused by it. An advantage of the nitrites is in their combination with the tonic cardiacs, if needed. Aconite is of noted help in the excessive hypertension and pounding heart in toxemia of pregnancy. Moreover, double drop doses during the day have given great relief without perceptible harm to the heart.

Chloral, veronal and medinal are reliable agents to procure sleep when attacks of vertigo, dyspnea and pounding heart make the night a time of horror, and chloral may be given in effective doses; perhaps too often our patients fail to receive relief, which is withheld from them by our fear of doing harm. From year to year a new hypnotic comes on the market, which surpasses all its predecessors in effectiveness and absence of depressing effects on the heart. But it is just this depressor effect of the chloral group, which aids in combating the dyspneic unrest, which robs the patient of his sleep. Small doses of chloral during the day are very helpful by their depressor effect.

In this respect I would add that in the senile heart, both with and without hypertension, digitalis is an ideal drug and should not be withheld on account of its pressor power. A good deal of this hypertension, already compensatory, is due to venous stasis, with rest, massage, and partial depletion; the use of digitalis for a few days, guarded by some iodid or nitrite, will tone the myocardium and bring decided improvement. The use of bromids for three or four days at a time will help. With thiosinamin, fibrolysin and sulphocyanite of sodium I have only a bowing acquaintance. And very recently, on Rumpf's recommendation, I have begun the application of high tension oscillating currents which can easily be given as a house remedy.

As in the degenerative changes accompanying secondary arteriosclerosis, the deposit of calcium salts adds to the rigidity of the artery, it has been deemed well to reduce the lime intake, which means the exclusion of hard water, the theoretical limitation of eggs, cheese, rice, asparagus, carrots and milk. On these grounds, strontium or sodium lactate is given. One of the latest drugs, sulphocyanite of sodium, derives its supposed effect from its calcium dissolving potency.

A practical question is: How does altitude influence hypertension? It is as yet hard to answer, though, in

rough outline, there is an apparent parallelism between atmospheric pressure and blood-pressure.

In our part of the country, we acquire the necessary information by sending our people on trial trips to any altitude desired; again it all depends on the heart's tonicity.

When the crest of this wave of hypertension, which has struck our profession, will have passed leaving in its wake many a shattered notion, a flotsam and jetsam of sphygmomanometers, broken cuffs and pressure records, the level of our useful knowledge will have come up to a more adequate management of this pathologic condition. May we learn and teach not to grow old before our time, for growing old before one's time is what hypertension means. To depress hypertension in the aged is to take the wind out of his sails, which carry his life-boat into the haven of rest; to reduce the hypertension in the man of 45 is to save him from shipwreck on the banks and cliffs of the very Golden Gate of mature life.

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ABSTRACT OF DISCUSSION

DR. L. DUNCAN BULKLEY, New York City: I see a great deal of high blood-pressure in connection with a variety of diseases of the skin; of course there is a far larger number of skin patients who are anemic and with low arterial tension. I see many patients, for instance, with ordinary eczema, from over-eating and drinking, with full, bounding pulse, so that I am constantly having to combat high blood-pressure. I want to bring one therapeutic measure before you which I find to be of the greatest practical value, and have only to say that if you do *not* find blood-pressure lowered by the treatment recommended I should be extremely grateful to be notified. This consists in a very radical change of diet, which is often quite a surprise to many patients. I appreciate all the features, for I myself have been through it a number of times. Some five years ago I conceived the plan when called to treat a very acute bullous eruption, becoming hemorrhagic, in a plethoric man, with a throbbing pulse, and since then have employed it in many cases and published a paper concerning it, which some of you may have seen. My desire was to cut off all nitrogenous intake, and so I told the patient to take nothing at all into the stomach for five days but rice boiled in water, and white bread, with much butter on both (no milk or sugar), and only pure water to drink, hot or cold, but not iced. The result was remarkable; the blood-pressure lowered at once, in three days the pulse was soft, and the threatening eruption subsided almost entirely. I have practiced this myself on three occasions and know that one can stand it and feel immeasurably better under it, as I have also observed in dozens of cases. I have the rice eaten with a fork, masticated thoroughly, in order that the saliva may be well mixed through it. Boiled rice has practically no nitrogenous value, white bread little, if any, and butter has none. I had my own urine analyzed before and after subsisting on this diet for five days; I am a uric acid subject and neurotic. I had noted the amount of urea and uric acid before the dietary course; I then took the diet for five days and the urine actually showed more uric acid after my not having any nitrogen for five days than it contained before the diet, showing a relief to the system by the abstraction of effete nitrogenous matter from the tissues. In my own case I had an acute vesico-bullous eruption, mainly on the hands. The second day of this diet the itching was gone and within five days the eruption had disappeared. My treatment consists of four articles—boiled rice, with little salt, white bread, butter on both, and water. Some have kept it up for two or three weeks and thrived well. I wish I could talk a minute more about the value of mercurials in lowering blood-pressure; there is no question that they are of great value in reducing hypertension.

DR. WILLIAM B. SNOW, New York: Dr. Visscher has considered most of the general features and associated conditions; but it seems to me that more stress should be laid on the study of the relation of the alimentary tract as a cause of hypertension. Hypertension is undoubtedly caused by toxins which are the products of intestinal flora. Arterial degeneration is undoubtedly due to protracted hypertension. A definite study of arterial tension requires the sphygmomanometer for two reasons: first, to know accurately the degree of tension, and second, to observe the results of treatment. The kind and quantity of food consumed together with the associated character of mastication and digestion determine the arterial tension in most cases. The victims of hypertension are usually large consumers of animal food. Individuals who lead a simple life, eating small quantities of food, often reach sixty years of age with a normal tension of 120 mm. On the other hand, young adults who are large consumers of food are often found with pressures of 160 to 180 mm. The man who leads a quiet life must eat with moderation. Diet and exercise must balance. I find that hypertension is not as a rule compensatory, but arises from auto-intoxication, and is part of the symptom-complex, which will lead to arteriosclerosis. The following case in a man 55 years of age will illustrate the importance of exercise. His arterial pressure was 210 mm. He was a man about town, living a life of pleasure, having the best of all good things. High frequency autocondensation reduced the blood-pressure to 130 mm. within one month, when I put him on active exercise. The man went through last summer with a pressure that did not exceed 145 mm. He frequently played four games of tennis in succession, and is now in good condition, taking little treatment and no drugs. The d'Arsonval method of treating hypertension is one of the greatest boons to humanity. I have constantly under observation a goodly number of cases who are on the verge of apoplexy in whom a pressure of between 130 and 150 mm. is maintained with occasional treatment, with the high frequency current. This is accomplished without depressing the heart, as has been demonstrated in the treatment of a person in my own house every day, in whom the pressure was 210 mm. and irreducible, owing to general sclerosis. Another patient had been in bed most of the winter suffering from pulmonary edema due to mitral insufficiency with hypertension. He had had three hemorrhages with incessant cough and expectoration of bloody mucus. His pressure when he came to me was 210 mm. Under alternate day autocondensation treatment (no drug) the pressure rapidly fell to 130 mm. He is now well, without cough or dyspnea and his pressure is now maintained below 140 mm. with one autocondensation treatment weekly, with no other treatment.

DR. L. G. VISSCHER, Los Angeles: I am grateful for Dr. Bulkley's suggestions to lower blood-pressure by his exclusive diet, and to Dr. Snow for his information about the d'Arsonval treatment. I cannot agree with this speaker when he doubts the compensatory nature of hypertension. Depressing drugs or measures, especially in older subjects, have, in my experience, caused weakness, very hard to overcome; it is necessary to get up a certain balance of welfare. Dr. King thinks well of calomel; so do I, as I rather boldly stated. Physical rest I do not consider so useful as moderate and well regulated exercise. As to the cold shower, of short duration, after a warm bath, I maintain that it assures the reaction without which this measure were harmful. Cold baths I consider harmful.

Desiccation as a Means of Disinfection.—The Indian, who, instead of embalming and burying his dead friend, hangs the body under a tree exposed to the air, makes use of the property of desiccation, which, as is well known, is very efficient in arresting decay and is the basis of a modern patent for keeping yeast. Earth is a very powerful deodorant and will also act as an antiseptic; the gases given off by decaying bodies are absorbed and thus the burying of a body under proper conditions may be regarded as an efficient means of disinfection. The use of fire for cremating bodies undergoing decay or likely to cause a nuisance is, of course, an illustration of the employment of heat for the destruction of microorganisms.—W. Dreyfus in *Jour. Am. Pub. Health Assn.*

EXPERIMENTAL MEASLES IN THE MONKEY WITH SPECIAL REFERENCE TO THE LEUKOCYTES *

LUDVIG HEKTOEN, M.D., AND H. E. EGGERS, M.D.
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In a series of recent articles Anderson and Goldberger[1] report the results obtained on inoculation of monkeys with measles by means of blood from early cases of human measles and in other ways. The reactions described by them as appearing after an incubation period of six days and longer, consist essentially in a short fever with or without distinct macular rash.

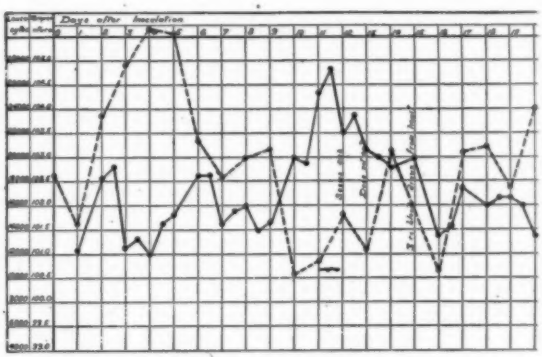

Chart 1.—Temperature and leukocyte curves of Monkey 5. Solid line = temperature. Broken line = leukocytes.

During the course of the experiments the results of which are given briefly in this article, special study was made of the leukocytes of monkeys (*Macacus rhesus*) after the injection of measles blood.

MONKEY 5 (CHART 1, TABLE 1).—The blood was obtained from M. Z., aged 23, thirty hours after a typical measles rash began to make its appearance. Three c.c. of blood were withdrawn from the elbow and mixed with 5 c.c. citrate-salt solution (1 per cent. sodium citrate in physiologic salt solution); one-half of this mixture was injected into the heart and the other half into the peritoneal cavity of the small rhesus monkey about two hours after withdrawal of the blood.

Chart 1 shows that on the eleventh day there developed a rise in temperature (rectal) which lasted about three days. At this time the animal seemed sick, but there was no recognizable rash, no coryza, no conjunctivitis. There was, however, a distinct fall in the total number of leukocytes during these days, and the relative participation of the different forms of leukocytes in this fall is shown in Table 1, which gives the differential counts. The number of red corpuscles and the hemoglobin appeared to remain normal.

As regards the differential counts in the monkey, it may be well to state at this point that even in the apparently normal animal they show great fluctuations without apparent assign-

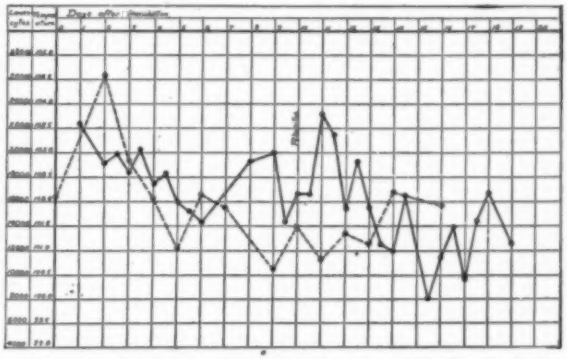

Chart 2.—Temperature and leukocyte curves of Monkey 2. Solid line = temperature. Broken line = leukocytes.

able cause, and hence it is difficult to draw accurate deductions from them. The blood of all of the monkeys showed relatively high proportions of lymphocytes as compared with human blood and this, in spite of the fact that the cells of the so-called "large lymphocyte" type—cells with a sharply defined nucleus and abundant basic-staining cytoplasm—were enumerated among the large mononuclear cells, inasmuch as differentiation between them and typical large mononuclear cells is extremely difficult.

As it was not wished to risk the life of the animal too soon, the withdrawal of blood from it was postponed until the fourteenth day when 3 c.c. were taken by puncture of the heart, mixed with 5 c.c. citrated salt solution and injected intracardially and intraperitoneally in Monkey 2.

* From the Memorial Institute for Infectious Diseases, Chicago.
1. Pub. Health Rep., 1911, 26, pp. 847, 887; THE JOURNAL A. M. A., July 8, 1811, p. 113, and Sept. 16, 1911, p. 971.

TABLE 1.—LEUKOCYTES IN MONKEY 5

No. Days After Inoculation.	Total No. of Leukocytes.	Differential Count. Neutrophils.	Lymphocytes.	Mononuclears.	Lymphocytes and Mononuclears.	Eosinophils.	Basophils.	Remarks.
	18,700	50.7	30.2	17.0	47.2	1.2	0.8	Inoc. with 3 c.c. measles blood.
1	14,600	58.4	27.3	10.7	38.0	2.9	0.7	.....
2	23,400	49.0	33.4	15.9	49.3	1.5	0.2	.....
3	27,900	41.0	35.3	22.4	57.7	1.0	0.3	.....
4	32,100	24.6	70.6	4.5	75.1	0.3	0.0	.....
5	30,400	32.3	45.8	20.6	66.4	1.0	0.3	.....
6	21,200	60.1	23.5	16.4	39.9	0.0	0.0	.....
7	18,300	55.4	32.7	11.8	44.5	0.2	0.0	.....
8	20,000	44.0	35.7	19.0	54.7	1.0	0.3	.....
9	20,800	51.2	34.1	13.4	47.5	1.0	0.3	.....
10	10,400	25.0	57.4	14.1	71.5	2.5	1.0	.....
11	11,800	38.6	54.6	5.8	60.4	1.0	0.0	Looks ill.
12	15,200	39.0	45.3	13.9	59.2	1.0	0.8	Temp. 104.4 F.
13	12,300	24.6	60.2	12.9	73.1	2.0	0.4	.....
14	20,400	57.6	33.7	6.7	40.4	1.0	1.0	3 c.c. blood drawn from heart.
16	10,500	28.0	53.2	12.6	65.8	4.3	1.9	.....
17	20,100	41.0	43.5	11.6	55.1	3.4	0.5	.....
18	20,800	40.3	50.7	7.8	58.5	1.0	0.3	.....
19	17,600	37.7	50.4	10.7	61.1	0.8	0.4	.....
20	24,000	49.8	36.8	12.2	49.0	1.2	0.0	.....

On the twenty-sixth day after inoculation Monkey 5 was reinjected (intraperitoneally) with 3 c.c. of measles blood from G. W., aged 7, obtained thirty-six hours after the outbreak of the rash. This injection did not cause any distinct reaction.

On account of the distinct rise in temperature on the eleventh day, associated with a fall in the number of leukocytes, it would seem as if this monkey reacted to the virus of measles. This view is supported by the fact that inoculation with its blood gave rise to suggestive reactions in Monkey 2.

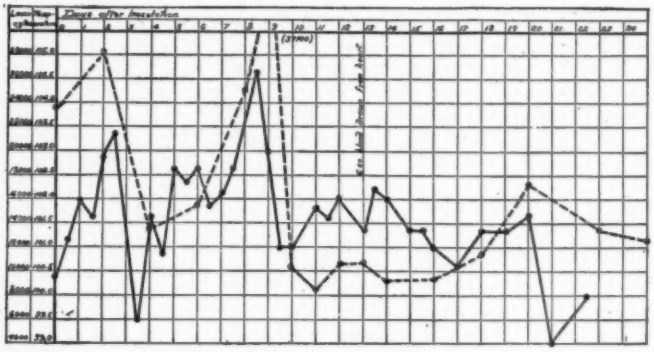

Chart 3.—Temperature and leukocyte curves of Monkey 1. Solid line = temperature. Broken line = leukocytes.

MONKEY 2 (CHART 2, TABLE 2).—This animal received 3 c.c. of blood from Monkey 5. The blood was drawn on the fourteenth day after Monkey 5 was inoculated, and injected within one hour into the heart and the peritoneum. The chart shows a slight elevation of the temperature on the eleventh day after the inoculation. There was a slight rhinitis on the ninth and tenth days and a fall in the number of leukocytes.

MONKEY 1 (CHART 3, TABLE 3).—This animal was injected in the heart with 3 c.c. of blood from G. W., the same patient who furnished the blood for the second inoculation of Monkey 5. It should be noted that this blood was drawn thirty-six hours after the appearance of the rash. On the eighth day there was a transient rise of temperature with a neutrophil leukocytosis. For some days, beginning on the tenth, there was a distinct fall in the total number of leukocytes. On the twelfth day 6 c.c. of blood were drawn and Monkeys 3 and 4 each injected with 3 c.c. in the peritoneal cavity, but without any effect.

MONKEY 10 (CHART 4, TABLE 4).—This monkey was injected in the heart with 3 c.c. of measles blood obtained from C. B., aged 6, six hours after the first appearance of the rash. The blood was mixed with an equal amount of citrate-salt solution and injected about forty-five minutes after its withdrawal. As shown by the chart there occurred a fall in the leukocytic count on the sixth day which lasted for about seven days. On the eleventh, twelfth and thirteenth days, the evening temperature was a little higher than in the morning, the reverse of what seemed otherwise to be the case, but there was in this case, no distinct fever. On the twelfth day the animal seemed sick, it crouched drowsily in one corner of its cage and did not keep itself as clean as usual; this condition lasted three or four days. On the fifteenth day, reddish maculopapular spots were present at the outer angles of the eyes and there were slightly reddish macules on the forehead; the inner canthus of the eyes was congested. There were no Koplik's spots. On the following day there was a faint, pink, macular rash on the skin of both groins which disappeared in twenty-four hours. By this time the rash on the forehead vanished also, while that at the outer angle of the eyes disappeared more gradually. The spots were irregular in shape, not distinctly circumscribed, and approximately 2 to 3 mm. in diameter; no distinct desquamation could be made out. In this case it seems to us altogether reasonable to regard the fall in the number of leukocytes, the slight illness on the twelfth to the fifteenth day, and the rash as manifestations of an actual infection with measles.

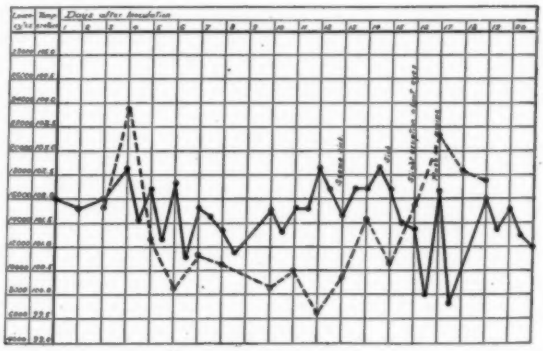

Chart 4.—Temperature and leukocyte curves of Monkey 10. Solid line = temperature. Broken line = leukocytes.

TABLE 2.—LEUKOCYTES IN MONKEY 2

No. Days After Inoculation.	Total No. of Leukocytes.	Differential Count. —Lymphocytes and Mononuclears.— Neutrophils.	Lymphocytes.	Mononuclears.	Lymphocytes and Mononuclears.	Eosinophils.	Basophils.	Remarks.
	16,200	39.3	44.8	7.7	52.5	7.7	0.5	Inoc. with 3 c.c. blood from Monkey 5.
2	26,200	47.1	36.6	13.8	50.4	2.0	0.5	
3	19,400	39.8	39.5	10.7	50.2	0.5	0.5	
4	16,300	34.9	50.2	8.3	59.1	6.1	0.5	
5	12,100	43.2	42.2	9.5	51.7	4.5	0.5	
6	16,600	39.7	51.0	6.2	57.2	3.2	0.0	
7	15,600	38.8	46.2	10.8	57.0	4.0	0.2	
9	10,400	43.0	46.5	8.5	55.0	2.0	0.0	
10	14,000	53.5	40.5	6.0	46.5	..	..	Slight rhinitis.
11	11,300	44.8	48.3	6.1	54.4	0.8	0.0	
12	13,300	52.2	44.0	3.8	47.8	0.0	0.0	
13	12,500	63.5	27.7	7.1	34.1	1.5	0.2	
14	16,900	52.1	36.5	8.9	45.4	1.5	1.0	
16	15,700	44.3	38.5	10.5	49.0	5.7	1.0	

The general results of our experiments agree very well with those of Anderson and Goldberger. The combined results indicate that *Macacus rhesus* is susceptible to a mild kind of measles if injected with the virus of human measles present in the blood soon after the rash has appeared.

Our observations show that in measles of the monkey, the leukocytes appear to behave very much as they do in human measles; that is to say, that preceded by a more or less distinct leukocytosis there occurs a leukopenia of variable degree in what would correspond in a general way to the latter part of the preeruptive and the early part of the eruptive periods. In our animals this leucopenia involved principally the neutrophils, the lymphocytes being relatively somewhat increased. Inasmuch as these monkeys, at the same time as they received the measles virus, also received a large amount of foreign protein in the form of human blood, it is of course questionable whether the changes in the leukocytes should be attributed to the action of the measles virus only. It might be said that the leukopenia is one of the results of the introduction of human blood and connected with the resulting processes of antibody formation and sensitization. While further observations are necessary in order to settle this point, it may be said that in monkeys injected with human blood for other purposes and in larger quantities than those used in these experiments, we have noted either no leukopenia at all or only slight and transitory diminutions in the counts. Hence it may be concluded that the leukopenia observed in Monkeys 5 and 10, and to a less degree in Monkey 2, most likely represents a reaction to the measles virus.

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TABLE 3.—LEUKOCYTES IN MONKEY 1

No. Days After Inoculation.	Total No. of Leukocytes.	Differential Count.—Lymphocytes and Mononuclears.— Neutrophils.	Lymphocytes.	Mononuclears.	Lymphocytes and Mononuclears.	Eosinophils.	Basophils.	Remarks.
	23,900	64.9	21.6	12.0	33.6	1.5	0	Inoc. with 3 c.c. measles blood.
2	28,300	74.0	17.2	7.7	24.9	1.0	0	.....
4	13,600	45.9	33.4	11.3	44.7	8.8	0.5	.....
6	15,700	51.8	29.4	14.0	43.4	4.0	0.8	.....
8	25,100	79.2	13.4	6.8	20.2	0.2	0.4	.....
9	37,100	87.4	8.8	3.6	12.4	..	..	.....
10	10,100	...	...	...	...	...	...	.....
11	8,300	23.3	65.8	10.5	76.3	0.2	0.2	.....
12	10,500	25.8	58.7	11.0	69.7	4.0	0.5	Blood drawn to inoculate Monkeys 3 and 4.
13	10,600	39.5	38.0	10.8	48.8	10.8	0.2	.....
14	9,200	...	...	...	...	..	..	.....
16	9,300	38.0	54.0	6.2	60.2	1.8	0	.....
18	11,500	43.0	44.8	9.0	53.8	0.2	0	.....
20	17,200	52.8	36.5	9.2	45.7	1.5	0	.....
23	13,500	59.0	35.2	4.5	39.7	1.3	0	.....
25	12,400	36.8	52.4	6.0	58.4	4.8	0	.....
27	14,500	49.2	43.6	3.6	47.2	3.6	0	.....

TABLE 4.—LEUKOCYTES IN MONKEY 10

No. Days After Inoculation.	Total No. of Leukocytes.	Differential Count.—Lymphocytes and Mononuclears.— Neutrophils.	Lymphocytes.	Mononuclears.	Lymphocytes and Mononuclears.	Eosinophils.	Basophils.	Remarks.
3	15,500	24.0	52.0	20.5	72.5	3.5	0	.....
4	23,800	23.0	30.7	43.0	73.7	1.2	0.7	.....
5	12,600	55.0	13.7	27.3	41.0	3.7	0.3	.....
6	8,600	54.5	15.3	28.9	44.2	1.3	0	.....
8	11,500	51.6	21.6	22.0	43.6	4.8	0	.....
9	10,400	56.0	21.6	19.2	40.8	3.2	0	.....
10	8,600	36.8	28.8	31.2	60.0	3.2	0	.....
11	10,000	29.6	51.2	16.8	68.0	2.4	0	.....
12	6,600	39.6	40.4	18.4	58.8	1.6	0	Seems sick.
13	9,700	57.4	19.8	18.0	37.8	4.5	0.3	.....
14	14,200	51.1	23.4	22.3	45.7	2.0	1.2	Sick—eruption in face, macular eruption in groin.
15	10,400	29.6	40.6	22.0	62.6	6.3	1.6	.....
16	15,600	43.0	25.3	27.3	52.6	1.7	2.0	.....
17	21,300	43.0	28.0	20.3	48.3	5.0	3.3	.....
18	18,300	23.5	46.4	26.1	72.5	1.0	2.9	.....
19	17,900	30.0	43.2	16.4	59.6	6.0	4.4	.....

Scientific Thought and Progress.—Lord Playfair, at Aberdeen in 1885, said that "human progress is so identified with scientific thought, in both its conception and realization, that it seems as if they were alternative terms in the history of civilization." This is only an echo through the ages of an utterance of the great Englishman, Roger Bacon, who wrote in 1250 A. D.: "Experimental science has three great prerogatives over all other sciences: it verifies conclusions by direct experiment; it discovers truths which they would never reach; and it investigates the secrets of Nature, and opens to us a knowledge of the past and of the future."—Sir William Ramsay.

THE EOSINOPHILIA OF BRONCHIAL ASTHMA

WITH REPORT OF A CASE SHOWING EXTREME BLOOD CHANGES

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NEW YORK

In 1889, Müller observed the increase of eosinophils in the sputum of bronchial asthma patients. Fink,[1] in 1890, described the eosinophilia of the blood in this disease. Von Noorden,[2] in 1892, in a study of the asthmatic's blood, observed that during paroxysms the eosinophils were much more numerous than in the intervals between attacks and that frequently repeated paroxysms gave the highest percentage of these cells. He reports a case in which, during freedom from symptoms, the eosinophils were 5 per cent., but after daily attacks for thirteen days, excepting a five days' interim, the percentage rose to 33⅓.

Salecker,[3] in 1907, in a study of seven cases, noted a slight lymphocytosis with a slight eosinophilia between attacks. During attacks with continuance of the spasm there was a leukocytosis, the increase being mostly of the eosinophils. As the paroxysm subsided the eosinophils decreased and in the course of several days the blood-picture became normal. In acute asthma the blood changes were less marked than in chronic cases.

Gabritschewsky[4] found 10 per cent. of eosinophils in the blood from a patient suffering from two or three attacks a month; 22 per cent. in another having paroxysms every two or three weeks and lasting three or four days. In a third case of chronic bronchitis with asthmatic attacks the eosinophils were 16 per cent.

Wolff[5] followed a case throughout a year, during six months of which there were no paroxysms, and found the percentage of eosinophils always over 10. Cabot[6] speaks of a subacute case without well-marked paroxysms, or periods of perfect health in which there was always a slight leukocytosis and an eosinophilia of from 11 to 15 per cent.

The highest counts on record are those of Coler[7] and Billings.[8] In the former's case the leukocytes were 52,000, the eosinophils 25 per cent. In Billing's case there were asthmatic paroxysms during six months and a probability of syphilis; the leukocytes were 8,300; the eosinophils, 53.6 per cent.

In routine clinical work the blood-picture of asthma and bronchitis attracts little notice, and the literature gives data too meager to justify a classification of types on this basis. The following case is put on record as a contribution toward such a classification, also as one showing the most pronounced blood changes yet reported.

History.—The patient was a broker, aged 52, having a good family history. The usual children's diseases, including scarlatina, had been experienced, also slight pneumonia at 17, severe typhoid at 20 and an attack of muscular rheumatism following exposure at 42. There had been several attacks of gonorrhea, the last twenty years ago, at which time there was a chancre with a secondary eruption. Luetic treatment was given for one year and there have been no further manifestations of the disease. The present illness began in April, 1910, as a slight cough at night. This increased, disturbing sleep, and profuse expectoration of thick yellow muco-pus began. Later there were asthmatic attacks at night with wheezing and orthopnea. As a result he had lost 18 pounds and was very weak. Absence in the country during five weeks improved matters for a short time, but cough, dyspnea, wheezing and insomnia returned and conditions were as bad as before.

Examination.—Physical examination, Sept. 28, 1910, showed a man poorly nourished and pale with slight dyspnea. The temperature was 98.6, the pulse-rate 84. There were a few sibilant râles on coughing over both lungs. The spleen was palpable at the costal border, the edge being thick, firm and the notches detectable. The liver was not palpable. The urine showed nothing abnormal. The sputum showed no tubercle bacilli, but was not examined further. The hemoglobin was 85 per cent., the leukocytes 41,600. The differential count of 300 cells was: polynuclears, 11 per cent.; small lymphocytes, 12.5 per cent.; large lymphocytes, 2.5 per cent.; eosinophils, 72.5 per cent.; basophils, 0; myelocytes, 1.5 per cent. The red cells appeared normal.

Treatment.—During the following week there was almost constant dyspnea with cough, orthopnea, wheezing and sleeplessness, so that the patient was utterly discouraged and planned to give up his business. Examination at this time (Oct. 5, 1910) showed a moderate emphysema with prolonged expiration and many sibilant râles over both lungs. The spleen was as before. The temperature had been normal during the week. The leukocytes numbered 56,000, the smear showing the same marked eosinophilia. The stools were twice examined for ova and parasites, neither being found. Iodid of potassium, 15 gr. with morphin 1/10 gr., was given every four hours.

Course.—October 13 there was great improvement, only slight dyspnea and cough remaining. Examination revealed a few sibilant râles at both bases and the spleen still palpable. The leukocytes were 57,000, the differential count of 200 cells showing polynuclears, 5 per cent.; small lymphocytes, 12 per cent.; large lymphocytes, 2 per cent.; eosinophils, 77 per cent.; basophils, 1 per cent.; myelocytes, 3 per cent.

October 20, continued improvement was reported. The lungs were clear, the spleen palpable, the weight 133 pounds. The leukocytes were 43,000, the differential count of 200 cells was: polynuclears, 20 per cent.; small lymphocytes, 12 per cent.; large lymphocytes, 5 per cent.; eosinophils, 62 per cent.; basophils, 2 per cent. Ten grains of potassium iodid were given three times daily.

Jan. 10, 1911, the patient reported that after taking iodid of potassium five days he had complete relief. The cough remained for ten days, recurred for two nights and was again relieved by a renewal of the medication. His weight was 144 pounds. The lungs were clear. The spleen was not palpable. The general condition was excellent. The leukocytes were 10,000. The differential count of 200 cells showed polynuclears, 57 per cent.; small lymphocytes, 28 per cent.; large lymphocytes, 2 per cent.; eosinophils, 7 per cent.; basophils, 3 per cent.; transitionals, 3 per cent.

The association of eosinophilia with many conditions presumably anaphylactic has been pointed out by Moschcowitz,[9] Goldschmidt and others, but experimental work on this apparent relation is lacking. It is known that acute anaphylactic shock and the ordinary serum sickness are characterized by a leukopenia with reduction of the polynuclear cells and no change in the eosinophils.[10] In guinea-pigs, during or after anaphylaxis following interval injections of an extract of *Ascaris lumbricoides*, I have found no change in the percentage of eosinophils in the blood. The absence or slight degree of eosinophilia in severe acute cases, and its presence often in excess in the more chronic forms of bronchial asthma, suggests an analogy in trichiniasis, in which the severe cases show

1. Fink: Beiträge zur Kenntnis des Eiters, Dissert. Bonn, 1890.
2. Von Noorden: Beiträge zur Pathologie des Asthma bronchiale, Ztschr. f. klin. Med., 1892, xx, 98.
3. Salecker: Blutuntersuchungen bei Asthmatikern, München. med. Wchnschr., 1907, liv, 358.
4. Gabritschewsky: Klinische hämatologische Notizen, Arch. f. exper. Path. u. Pharmakol., 1891, xxviii, No. 28, p. 83.
5. Wolff: Die eosinophilen Zellen, ihr Vorkommen und ihre Bedeutung, Beitr. z. path. Anat. u. z. Allg. Path. (Ziegler's), 1900, xxviii, 150.
6. Cabot: Clinical Examination of the Blood, Ed. 5, p. 377.
7. Coler: Cited by Cabot: Clinical Examination of the Blood.
8. Billings: A Case of Asthma and Symmetrical Enlargement of the Arms; Marked Excess of Eosinophils in the Blood, New York Med. Jour., May 22, 1897.
9. Moschcowitz: Eosinophilia and Anaphylaxis, New York Med. Jour., 1910, xcii, 15.
10. Bienenfeld: Das Verhalten der Leukozyten bei der Serumkrankheit, Jahrb. f. Kinderheilk., 1907, lxv, 174.

the lesser degree of eosinophilia, the most marked increase in these cells being in the milder forms. It may be that in asthma the severe acute anaphylactic effect (if such it be) overwhelms the eosinophil-producing agents, while the slighter, more prolonged effects stimulate them. Experimental work on this problem is in progress.

It is questionable if any practical conclusion can be drawn from the blood-picture of bronchial asthma aside from its real value in differential diagnosis. It may be remarked, however, that the type of the disease showing eosinophilia of the blood is that responding most often to potassium iodid. A thorough trial of this drug is therefore indicated in such cases.

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NEPHROPEXY FOLLOWED BY RELIEF OF HEMATURIA

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A nun, aged 38, consulted me March 9, 1911.

In November, 1901, she had been operated on for uterine displacement because of painful menstruation. In April, 1905, on account of the continuance of the pain, a second celiotomy was performed. The ovaries were found to be cystic and were removed, and at this operation the appendix was excised. Afterward and following catheterization, cystitis developed. She was under treatment for this for two months before it cleared up. In June, 1906, not having experienced any relief from the previous operations, an abdominal hysterectomy was performed. She required catheterization after operation and again the bladder became infected. Intense burning during urination was present, with frequent desire to micturate. Treatment, consisting of bladder lavage with argyrol, was kept up for four months, with only partial cessation of symptoms.

Three months later, she developed an attack of violent pain in the back and right kidney region. This was accompanied with frequent painful urination and hematuria. The attack lasted for a few days and gradually disappeared, only to recur at three or four months' intervals. Such has been the condition for the past four years until September, 1910. Since that date she has had constant pain over the right kidney, frequent bloody urination and intense agony during micturition.

The patient had lost considerable weight. Examination of the heart and lungs showed normal organs. The right kidney was easily palpated and movable. She was sent to the sanatorium for observation and detailed examination.

THE URINE ANALYSIS AT THE TIME OF EXAMINATION

Reaction, acid.	Examination of the Sediment.
Sediment, marked.	Blood, much.
Nature of sediment, heavy.	Pus, moderate.
Albumin, 2 per mille by weight.	Mucus, moderate.
Bile pigment, absent.	Casts, none found.
Urea, 1.61.	Bacteria, slight bacteriuria, no tubercle bacilli.
Indican, no excess.	Epithelium, some bladder cells.
Color, claret.	Crystals, none.
Specific gravity, 1.020.	
Sugar, negative.	
Chlorids, 1 per cent.	
Phosphates, no excess.	

The albumin in this specimen seemed to be accounted for by the pus and blood. With the normal gravity, the absence of casts and a fairly corresponding relative amount of urea, there is no direct evidence to indicate renal origin of the pus and blood.

Cystoscopic examination of the bladder showed a trabeculated bladder-wall, a deeply injected mucous membrane which bled at the slightest touch of the cystoscope. Flakes of pus were everywhere adherent to the mucous membrane and ureteral orifices were swollen and edematous. Catheters were easily passed to the pelvis of either kidney and urine segregated. Examination of the segregated urine was negative, with the exception of a faint trace of albumin present in both specimens. There was no pus or blood.

Radiographic examination of the kidneys and ureters was negative. The radiographs were particularly excellent and showed the outlines of the kidneys plainly.

In view of these findings, a tentative diagnosis of severe hemorrhagic cystitis was made and treatment instituted.

The patient left the sanatorium in the care of her family physician, who was to carry out treatment. This treatment consisted in bladder lavage with boric acid and the various silver salt solutions, the administration of urinary antiseptics internally and general hygiene.

At the end of six weeks she returned in worse condition. She was now passing blood-clots, the pain in urinating was excruciating and the pain over the kidney constant.

Cystoscopy was again performed, and a small ulceration was found just below the left ureteral opening. Repeated search for tubercle bacilli, both in the bladder urine and in that drawn by ureteral catheters from the kidneys, resulted negatively.

Phenolsulphonephthalein determination of the functional capacity of the kidneys gave puzzling data. The first time the test was made the right kidney eliminated one-third the amount that the left did. On the second, the two kidneys functionated the same.

Even in the face of these negative kidney findings it was thought justifiable to offer an exploratory operation of the right kidney to the patient.

To sum up the patient's condition at this juncture, we have: a well-nourished woman passing urine loaded with pus and blood, the act of urination causing great pain, urinary frequency every hour or oftener, with constant pain over the right kidney, with no discoverable lesion of the heart or lungs and a faint trace of albumin as the only objective sign of possible kidney disease.

The patient acquiesced in operation, as her condition had become unbearable. The right kidney was exposed through a vertebral lumbar incision, was found to be very freely movable and was brought out of the wound without difficulty. The surface of the kidney appeared normal; there were no adhesions. A pathologic incision of the kidney was made, splitting it open from pole to pole. Macroscopically there was no evidence of disease. The ureters were found to be normal. The kidney was sutured together, replaced and anchored by a few chromic gut sutures. The wound was closed except for a small drain of rubber tissue at its lower angle.

The prospect of relief following the operation seemed poor, since all that had been accomplished was the fixation of a freely movable kidney.

The postoperative period, however, developed the most unexpected results. The patient recovered from the anesthetic without incident, and passed urine at the end of eight hours without pain and with but a small amount of blood in it. At the end of twenty-four hours, the blood had microscopically disappeared from the urine and she was voiding urine at five- and six-hour intervals in quantities of 6 to 10 ounces.

Her convalescence was rapid; the wound healed by primary union and from the end of the first day she has never passed bloody urine or suffered from pain during micturition. The pain over the kidney disappeared as the wound healed.

There had been no local treatment to the bladder for two weeks prior to operation, or any since. The only medication the patient received after operation was some small doses of sodium bromid given by the rectum. This was necessary because before operation she had been taking morphin to relieve the constant pain. The medication was discontinued at the end of the third day.

ANALYSIS OF VOIDED URINE TWO MONTHS AFTER OPERATION

Color, pale yellow.	Sugar, negative.
Sediment, none.	Appearance, clear.
Specific gravity, 1.021.	Reaction, acid.
Urea, 2.3 per cent.	Albumin, faint trace.

Microscopic examination, negative except for an occasional leukocyte and few squamous epithelia. Five months have elapsed since operation, with no recurrence of symptoms.

49 East Forty-Ninth Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLE HAS BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. ITS ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

CRURIN PURUM.—Quinolin-bismuth sulphocyanate. Crurin Purum is the sulphocyanate of quinolin and bismuth, approximately $(C_9H_7N.HSCN)_2Bi(SCN)_3$.

It is a fine, brick red, crystalline powder, with a slight odor of quinolin, insoluble in alcohol and ether, but soluble in acetone and slightly so in pure glycerin. It is decomposed by water with formation, it is stated, of soluble quinolin sulphocyanate, free sulphocyanic acid, and insoluble basic bismuth sulphocyanate or bismuth hydroxide. In the absence of moisture the compound may be kept for a long time unchanged.

When crurin purum is decomposed by water, there is formed an insoluble yellow compound and a solution which responds to tests for sulphocyanate in that it yields a deep red color with ferric chloride and a white precipitate with silver nitrate solution, and to tests for quinolin, in that treatment with iodine in potassium iodide solution yields a reddish-brown precipitate insoluble in hydrochloric acid; with picric acid solution it yields a yellow precipitate; with potassium ferrocyanide solution a green precipitate is formed; and with potassium mercuric iodide solution it yields a reddish-yellow precipitate which dissolves on heating. The yellow insoluble compound, when treated with potassium iodide solution, becomes orange colored, and it responds to tests for bismuth.

Crurin purum treated with dilute nitric acid dissolves with formation of a solution from which bismuth can be separated by precipitation with hydrogen sulphide for quantitative estimation and in which the sulphocyanate content can be determined by titration with standardized silver nitrate solution.

Actions and Uses.—Crurin purum is said to be antiseptic and antigonorrheic. It is said to be useful as a local application for gonorrhea. It is also used in the treatment of ulcers of the leg (see below).

Dosage.—It is to be used in 1 to 200 watery glycerin emulsion. This should be carefully prepared so that the bottom layer shall resemble milk of sulphur and shall not present a reddish color nor contain any red particles. The injections may be made twice daily and retained for from three to five minutes.

Manufactured by Kalle & Co., A. G., Biebrich a. Rh., Germany. German patent No. 86,148. Trademarked in Germany. No U. S. patents or trademarks.

Crurin Dusting Powder.—A preparation said to contain equal parts of crurin purum and starch.

Therapeutics

ANESTHESIA AND ANESTHETICS

(*Continued from page 1765*)

NITROUS OXID

Priestley made the chemical discovery of this gas in 1774, and Sir Humphry Davy, in 1799, described its properties, and even suggested it as an anesthetic. While its power to cause hilarity (hence its name "laughing gas") was not infrequently demonstrated, it seems to have been first used as an anesthetic by Horace Wells, a dentist, of Hartford, Conn., in 1844. Wells died in 1848, and nitrous oxid as an anesthetic was not again heard of until 1862, when a Mrs. Dunham, of New Britain, and a Mr. Smith, of New Haven, Conn., took the matter up with Colton, who, in 1863, urged the use of nitrous oxid in dental surgery. From this time it has never ceased to be used in minor surgery.

When this gas is inhaled mixed with air, in a few seconds a condition similar to alcoholic intoxication is produced, with talkativeness, sometimes incoherent speech, hilarity, and laughter; hence the name "laughing gas." If the inhalation is continued some patients may become wildly delirious, but if the gas is concentrated without much dilution, the stage of anesthesia is immediately produced without any exciting stage. The laughing intoxication, if no more gas is administered, may last some minutes; if the gas is pushed, it takes but a few seconds for the anesthesia to be complete, except there is likely to be more or less tone to the muscles of the abdomen and legs. With these exceptions, however, complete relaxation and unconsciousness is almost immediate. The face is suffused, even cyanotic; respiration stertorous; and if the gas is continued the respiration ceases, although the heart continues to beat for some time. If the administration of the gas is stopped before the respiration ceases, complete anesthesia lasts for about a minute, and in a few minutes more complete consciousness is regained, generally without any immediate after-effects. The slate-colored appearance of the face, neck and hands is not pleasant to witness, but generally clears immediately when the gas is removed.

There has been a great deal of discussion as to whether such anesthesia was due to the deprivation of oxygen, and therefore suffocation and really carbon dioxid poisoning, or whether the nitrous oxid gas itself has anesthetic properties. It seems demonstrated that the gas does have such properties. It was for some time claimed that nitrous oxid combined with some elements of the hemoglobin of the blood to the more or less permanent destruction of the red blood-corpuscles. This has been shown to be a mistake. Whatever combination it makes is very loose and quickly recovered from, and the blood-corpuscles are apparently not damaged. Some patients, however, feel dizzy, have irregular vasomotor activities and vasomotor ataxia; some have nausea; and not a few have a prolonged period of circulatory depression. Patients who are anemic are longer in recovering.

While this anesthetic seems to be the safest that can be used, the death-rate being estimated at about 1 in 50,000, still there is a death-rate; hence it is well to study the cause of deaths in these cases. They seem to have occurred when there was myocardial degeneration, where there was arteriosclerosis (as the blood-pressure is raised by this anesthetic), and where there have been obstructions to full, complete respiration. In other words, anything that impairs the respiration contraindicates the use of nitrous oxid; i. e., where there are very large tonsils, very bad adenoids, edema of the throat or larynx, marked asthma, or goiter, this anesthetic should not be used; certainly not used alone without dilution with oxygen. Also, it should not be administered until several hours after a meal on account of the stomach being full; and corsets, and all abdominal and chest constrictions should be removed.

The antidote to the respiratory failure or the inability of the patient to respire properly and recover properly from the anesthetic is artificial respiration, with, perhaps, if the patient is very cyanotic, added oxygen inhalations.

Even the administration of this gas which seems so simple should be left to those who become expert in its use. Although it has been administered perhaps millions of times, even dentists now specialize, and the gas anesthesia and the extraction of teeth is left to a certain few. But few physicians are expert in its use. Very few have the apparatus at hand, and the only physicians who become expert in its use are those in hospitals who use

this gas before beginning etherization. It was so administered to hasten the ether anesthesia and prevent ether excitement, for a considerable period, but not now as frequently used, i. e., nitrous oxid without the oxygen combination. Nitrous oxid gas should probably never be used as a preliminary to chloroform anesthesia.

Besides for the extraction of teeth, this gas has been used as such only for operations that required but a minute or less to complete.

NITROUS OXID AND OXYGEN

In 1878 Bert used a mixture of nitrous oxid and oxygen to anesthetize dogs, and with success. The following year he used it on the human subject. Later it was largely used in dentistry. The reason for the trial of such a mixture was that the repeated anesthesia with nitrous oxid, i. e., the inhaler applied, then removed, then applied again, to give a continuous anesthesia even for five minutes or more was found to be dangerous. Therefore it was hoped that a combination with oxygen would give a sufficiently prolonged anesthesia for more elaborate operations, and it has been found that the combination with oxygen is an anesthetic success. The combination with air was not a success.

Dr. F. W. Hewitt, of England, finds that a perfect anesthesia is produced by means of an apparatus that regulates the amount of oxygen and gas which the patient shall receive, allowing the proportions to be varied.

Andrews, of Chicago, in 1868, suggested the possibility of major surgery being done successfully with a combination of nitrous oxid and oxygen, but it is due to Bevan, Crile, Halsted, Kelly and Meyer that this gas combination is a successful and apparently safe anesthetic in all minor operations, and perhaps in many major operations.

Hamburger and Ewing showed in the laboratory the comparative effects of the different anesthetics, and through laboratory investigations the American Medical Association Commission on Anesthesia reported that the combination of nitrous oxid and oxygen, when given by skilled anesthetists, is the best anesthetic yet devised (THE JOURNAL, Nov. 7, 1908, p. 1572).

Bevan (THE JOURNAL, July 20, 1907, p. 198) states that this combination is the anesthetic of choice which he not only used for minor operations, but for exploratory laparotomy, gall-bladder operations, kidney operations, bladder operations, and even in gastro-intestinal and hernial operations. (Also see Bevan's article on page 1821.)

The advantages of this nitrous oxid and oxygen anesthetic are its creation of less fear in the patient when he knows that the gas is what he is to take, therefore one less element of later shock; its rapidity; the speed of recovery; the absence of pneumonic infections, kidney disturbance, or fatty degeneration of the organs as compared with such possibilities under ether or chloroform. Also, the circulatory tone which is kept up by the diminished oxidation is, as so well shown by Henderson, a preventive of shock and collapse.

Quite probably the same contra-indications to the use of this nitrous oxid with oxygen hold as when nitrous oxid is used alone, although the sudden rise of blood-pressure is not as great, hence the danger of a weakened heart muscle, or of weakened blood-vessels is not so great. It is quite probable that over-fat, flabby and full-blooded patients should not be anesthetized by this method.

A disadvantage may be a cyanosis, or the patient becoming talkative, or having muscle contraction during anesthesia. These may be prevented by a skilled anesthetist regulating the amount of nitrous oxid and oxygen. Also, while surgeons who use this anesthetic may learn to operate with less relaxed muscles, it seems to be a fact that the abdominal muscles and sphincter muscles, as well as possibly the extremities, do not relax as well as under ether or chloroform anesthesia.

It has been suggested that carbon dioxid gas be added to the mixture of nitrous oxid and oxygen in such amount from time to time as may seem advisable; this again on Henderson's theory that carbon dioxid prevents shock and circulatory depression and is stimulant to the respiratory center. Such a combination with a properly regulated apparatus to add or diminish each element as indicated, operated by an anesthetist skilled in the use of these gases, would seem to be an ideal anesthetic.

Crile, of Cleveland (*Surg. Gynec. and Obst.*, August, 1911), says that as the brain cells are prevented by nitrous oxid from expending a large amount of energy, it might be inferred that shock would be diminished by this anesthetic. This would be especially noticeable in neurasthenic patients who greatly feared an ordinary anesthetic, but might not fear the frequently used nitrous oxid gas. It has long been well known that anything that prevents fear and anxiety, which is a thyroid stimulant and promoter of thyroid secretion, will prevent the likelihood, at least, of shock.

Dr. Charles Teeter, a dentist of Cleveland, Ohio, reported (THE JOURNAL, Aug. 7, 1907, p. 448) 13,000 successful administrations of nitrous oxid and oxygen.

WHO SHOULD ADMINISTER THE ANESTHETIC?

It has previously been remarked that the anesthetic should be administered by a physician. Recently several distinguished surgeons in various parts of the country, have made use of a nurse as anesthetist and have advocated the training of nurses for this work. While it is unquestionable that a well-trained nurse may in ordinary cases administer an anesthetic quite as satisfactorily as can an untrained or imperfectly trained physician, and perhaps more satisfactorily, it nevertheless seems a reasonable contention that a function of as great importance as that of administering an anesthetic, and one in which the administrator holds the life of the patient in his hand, should be entrusted only to an educated and trained physician. By a not dissimilar process of reasoning it might be shown that the ordinary uncomplicated cases of obstetrics might be attended by a midwife quite as satisfactorily as by a physician. Doubtless also it might be proved in academic discussion that an experienced nurse might perform ordinary operations in surgery as well as an experienced surgeon, yet the present tendency to make much of general scientific training for persons who expect to minister to the sick in positions of responsibility would seem to render questionable the propriety of withdrawing the administration of anesthetics from the medical profession and entrusting it to the nurse. Although a nurse of experience and training under watchful and skilful surgeons may have an experience of several thousand cases without a death, without even a scare, still, the possibility that a dangerous condition may arise even when least expected would seem to prove that an office of this importance should be trusted to a carefully trained, skilful and watchful physician.

(*To be continued*)

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SATURDAY, DECEMBER 2, 1911

CARBOHYDRATE TOLERANCE AND THE HYPOPHYSIS CEREBRI

Noteworthy advances have been made in the last few years in elucidating the problems relating to the physiology and pathology of the hypophysis. Among these may be mentioned the favorable results of the partial removal of this gland in certain cases of acromegaly, and the demonstration by Paulesco and by Cushing[1] and his co-workers that the total extirpation of this gland in animals is rapidly followed by death, whereas the partial extirpation is followed by very characteristic effects on growth and development. The latter results afford conclusive evidence that at least some cases of this disease are due to a hyperfunctioning of the hypophysis, something which has long been suspected, but not previously definitely proved.

One of the most suggestive of the recent contributions to the knowledge of the physiology and pathology of the hypophysis is a paper by Goetsch, Cushing and Jacobson[2] on carbohydrate tolerance and the posterior lobe of the hypophysis. The results recorded in this extensive experimental and clinical study not only are of great theoretical interest, but promise to be of much practical value also.

It has long been known that glycosuria frequently occurs in cases of acromegaly; Borchardt, in 1908, stated that in 176 cases it had been reported as present in sixty-three and that there was a lowered assimilation limit for carbohydrates in eight others. In none of twenty cases of acromegaly or gigantism studied by Goetsch, Cushing and Jacobson, however, was glycosuria found. On the contrary, nearly all of these patients showed an entirely unsuspected condition, namely, a markedly increased tolerance for carbohydrates; that is, they reacted with glycosuria only to amounts of sugar much in excess of those producing glycosuria in normal individuals. Their condition was thus the reverse of that described by Borchardt.

An explanation of these apparently contradictory results is found in these authors' experiments on carbohydrate metabolism in partially hypophysectomized animals; these usually showed immediately after the operation a transient glycosuria, which, however, soon yielded to a markedly increased carbohydrate tolerance. The latter was readily reduced to, or below, the normal by the administration of extracts of the posterior lobe of the hypophysis. In other words, excess of posterior lobe secretion such as results from the administration of the gland or by the mechanical expulsion of its secretion during an operation on the gland leads to glycosuria or lowered carbohydrate tolerance; diminution of secretion, such as results from the removal of the gland, or from disease, leads to greatly increased carbohydrate tolerance.

These observations afford a satisfactory explanation of the varying picture of carbohydrate tolerance seen in acromegaly; in the early stages of this disease there is a hyperfunctioning, not only of the anterior lobe (which leads to the skeletal changes), but of the posterior lobe leading to glycosuria; in the later stages there is a hypofunctioning of the posterior lobe leading to increased carbohydrate tolerance.

Of more interest, because frequently overlooked, are the cases in which there is a primary hypofunctioning of the posterior lobe. According to Goetsch, Cushing and Jacobson, this may result from direct pressure by interpeduncular tumors, by growths originating in the lobe itself, and by the distant effects of a tumor causing an obstructive hydrocephalus and thus damming back the fluid medium carrying the posterior lobe secretion. The same symptoms of hypopituitarism occur in such cases as are seen in later stages of acromegaly. There is a very high tolerance for sugar, marked adiposity, due to a lowered consumption of sugar, and subnormal temperature, perhaps due to deficient oxidation. The administration of posterior lobe lowered the carbohydrate tolerance; by giving sugar in the amounts usually just sufficient to cause glycosuria in comparable normal individuals (about 2 grams of glucose or 1.4 grams of levulose per kilogram) and administering the posterior lobe in increasing doses until glycosuria was produced it was possible to determine the proper therapeutic dose of the gland in such cases.

The relation thus established between the hypophysis (posterior lobe) and carbohydrate metabolism throws light on a number of obscure problems. Thus Cushing and his associates are inclined to believe that the transient glycosurias often seen in cases of fractures at the base of the skull are due to a temporary stimulation of the hypophysis. Some cases diagnosed as diabetes mellitus or, since polyuria is a frequent accompaniment of hypophysis overactivity, as diabetes insipidus, have proved to be due to some factor stimulating the posterior lobe. One of these authors' acromegaly patients had some years earlier failed to pass a life-insurance examination on account of suspected diabetes mellitus; at the time of the second examination not only was there no glycosuria, but there was also an increased carbohydrate

1. Cushing, H.: THE JOURNAL A. M. A., July 17, 1909, p. 249.
2. Bull. Johns Hopkins Hosp., 1911, 22, p. 165; abstr. in THE JOURNAL, July 8, 1911, p. 163.

tolerance, the earlier hyperactivity of the posterior lobe having given way to a condition of hypo-activity.

The determination of carbohydrate tolerance thus promises to be of aid not only in the diagnosis of conditions of dyspituitarism, but also in determining more accurately the character of the derangement. The possible importance of this is evident from the statement of the present authors that they believe diseases of the hypophysis to be as frequent as those of the thyroid.

These studies also serve still further to emphasize the differences between the physiologic activity of the two parts of the hypophysis; the best therapeutic results can be expected only when this fact is taken into consideration.[3]

THE STUDY OF FEVER

It is interesting to watch how the introduction of improved methods of investigation opens up new points of view with respect to disease. At one time it may be the bacterial invader which commands attention when some new technic for the cultivation of microorganisms is announced; in other cases newly described pathologic lesions become the center of interest; or again the disturbances of metabolism attract notice. This has been conspicuously true in the study of fevers. Although the pathognomonic features of these conditions have long been associated with an upset in the oxidative functions of the body, it can scarcely be said that any clear-cut conceptions of the nature of the disturbances exist. The current teaching assumes that in fevers the decomposition of the foodstuffs and the proteins in particular is different from that which goes on in the healthy organism. The complicating inanition factors in prolonged fever have been emphasized by Coleman[1] and others; but the abnormal conditions created by starvation *per se* have received too little consideration in the past in the study of disease.

The technic of studying the respiratory exchange, which enables one to obtain an insight into the oxidative phenomena of the body, has been highly perfected in the Nutrition Laboratory of the Carnegie Institution of Washington, at Boston. Following in the path of Zuntz and his collaborators, Professor Benedict has rendered more easy and accurate the estimation of the respiratory quotient, i. e., the relation between the consumption of oxygen and the output of carbon dioxid, at the bedside. By means of a modified Benedict apparatus, Rolly[2] has found that the respiratory quotient is not essentially modified during the progress of the febrile state. Furthermore, the relations between various elements in the urine and the tissues show no departure from the normal sufficient to suggest any *qualitative* alterations in the metabolism characteristic of fever. This is a most significant finding inasmuch as it tends, if correct, to indicate that in many pathologic conditions the nutritive derangement, quite contrary to some current conceptions, consists in a *quantitative* exaggeration of normal processes rather than in some unique perversion of the bodily functions as the result of which the processes of oxidation, etc., proceed in entirely new channels.

During the convalescent period, according to Rolly, there may be alterations in the values for oxygen consumption and carbon dioxid production which point to as yet unknown reconstructions in the recuperating organism. The deposition of fat is suggested. A return to normal values may at times not occur until the end of several months. This is quite what might be anticipated. The result of such studies is to make us more careful to distinguish between the direct effects of pathogenic agents and the consequent exaggerations, rather than perversions, of the metabolism to which they may give rise. In other words, physiologic overwork of the organism may be quite as much a characteristic of disease as is an imperfect behavior of the bodily mechanism.

THE PREVENTION OF INDUSTRIAL DISEASE

Industrial diseases are "morbid results of occupational activity traceable to specific causes or labor conditions, and followed by more or less extended incapacity for work." Such diseases come about in two ways: Special industries give rise to their own peculiar ailments; thus result "phossy jaw" among match-makers, lead, arsenic, mercury poisoning, caisson disease and the like. In the second place special industries render the workmen susceptible to certain common types of disease; as when laborers in dust-evolving trades succumb to tuberculosis and pneumonia. Among disease-engendering occupations are glass-blowing; work in cotton factories; the work which young girls must do in the trimming-rooms of packing establishments, at a temperature lower than that generally obtaining in refrigerators; the work of the locomotive fireman, who, when asked how often through his hours of labor he bent his back, answered "just once"; the nystagmus-inducing work of miners; trades inducing specific infections, such as anthrax, and so forth.

Ignorance of the value of measures of safety, and considerations of profit and loss combine in varying proportions to depress the health and take the lives of workers. Whether the employer really saves money, or only thinks he saves it, at the expense of the lives and health of his employees is practically immaterial, except that in the latter case he must be educated, and in the former he must be penalized. The question of the most effective means of dealing with the problem is one which this country as yet has done little to answer.

3. Preparations of each of these parts are now available; see New and Nonofficial Remedies, 1911, p. 155.

1. Coleman: Diet in Typhoid Fever, THE JOURNAL A. M. A., Oct. 9, 1909, p. 1145.

2. Rolly: Exper. Untersuchungen ü. d. Stoffwechsel im Fieber und in der Rekonvaleszenz, Deutsch. Arch. f. klin. Med., 1911, cii, 93

In dealing with the problems of industrial disease, this country is behind Germany and some other European countries. It is especially out-distanced by them in the collection of adequate and reliable statistics dealing with disease or mortality as an accompaniment of industry—such statistics as are essential to any progress in the work under discussion. When, for example, Mr. Frederick L. Hoffman sought to estimate the prevalence of occupational diseases in our country, he had to utilize German statistics as a basis of his formulations.

Mr. Paul S. Peirce[1] reminds us that in their memorial to President Taft, the Committee of the National Conference on Industrial Diseases urged three steps on the part of the federal government: (1) the appointment of a national commission of inquiry, to consist of senators, congressmen and experts in preventive medicine, medical practice, sanitary engineering, industrial chemistry and applied statistics, and charged with the comprehensive investigation of the whole subject of occupational diseases; (2) the establishment of a national institute of industrial hygiene, equipped for research into the causes and treatment of factory diseases and designed to carry out proposals of the national commission, publish results, and encourage the pursuit of industrial medicine as a distinct profession; (3) the creation of a national welfare institute, for the improvement of labor conditions, including a museum of safety devices, whereby the calamities (accidents) of industrial life may be lessened, and the ravages of industrial disease be diminished.

In all the states, Mr. Peirce believes, the medical inspector of factories should occupy a conspicuous and a responsible position. He quotes Dr. W. C. Hanson: "Medical men alone are in a position to make the best use of facts obtained concerning the sanitary conditions of the premises where men and women work; to study the possible injurious effects of certain processes on the health of the persons engaged therein; to inspect devices designed to protect employees against injurious and dangerous substances, as well as to detect pathological signs or symptoms of certain poisons, and dusts and fumes incident to some occupations; to inquire as to the health of the employees; to make physical examination of minors, and (whenever possible) of adults engaged in trades deemed injurious to health; and to collect and make proper use of all facts and data, including morbidity and mortality statistics, pertaining to occupational hygiene." The confessedly ambitious program which Mr. Peirce outlines "may have to await the organization of a national health department." Here comment is superfluous.

Thus, by commission, by clinics especially devoted to industrial diseases, by state-appointed medical inspectors, by compulsory periodical examinations of working people, and by the passing of employers' liability and compensation acts, very much may be done. The ascertainment of facts, and their wide publication are most essential measures; for above all else, a humane popular sentiment must be aroused. Then the really civilized portion of the body politic may fall in line with organizations akin to the National Consumers' League, which refuses to purchase such products as have been ascertained to be sweated out of the blood and the lives of their fellow beings.[2]

1. Industrial Diseases, North Am. Rev., October, 1911.

ANOTHER SOURCE OF DANGER TO X-RAY WORKERS

In view of the well-established tendency of *x*-rays to cause cancerous proliferation of the skin of persons subjected to their action for a long period of time, it is not surprising to learn that similar effects may be produced on deeper-seated organs. Of all the tissues beneath the skin, one of the most sensitive to *x*-rays is the lymphatic system. This is shown not only by the striking effects produced in leukemic and similar hyperplastic conditions of the lymph-glands, spleen and bone-marrow, but also by experimental observations on normal animals exposed to *x*-rays, in which extensive changes in these same tissues are found to take place.

It now appears that the protracted influence of *x*-rays on the normal lymphatic tissues may be quite as serious as it is on the cutaneous epithelium, for von Jagic[1] has collected reports of three cases of lymphatic leukemia in *x*-ray workers, and one in a chemist who was engaged for a long time in the preparation of radium. On account of this observation he and his assistants have made a careful study of the blood of ten persons engaged in *x*-ray work, and find that uniformly there is a relative lymphocytosis. There is a slight diminution of the total number of leukocytes, which involves the neutrophil polymorphonuclear leukocytes and the eosinophils, the latter being sometimes entirely absent. The lymphocytes, however, were always relatively, and almost always absolutely increased, constituting from 35 to 52 per cent. of the leukocytes. Animal experiments have shown similar effects produced by both *x*-rays and radium. Apparently these rays injure the elements formed by the bone-marrow and stimulate the formation of cells by the lymphatic tissue. The cases of lymphatic leukemia in *x*-ray workers are presumably entirely analogous to the skin cancers which are caused by *x*-rays, each resulting from a too protracted stimulation of the cells from which the neoplasms eventually develop.

While the danger of leukemia from this source is probably not great, there being so few known cases, yet it is evidently an actual danger which has not hitherto been fully realized; its existence merely emphasizes the necessity of the most rigid self-protection by those who

2. The New York State Department of Labor (Bureau of Vital Statistics) requires physicians in that state to report (on blanks printed and issued for the purpose) every case attended by them of poisoning by lead, phosphorus, arsenic or mercury, anthrax, compressed-air illness—if such disease was contracted as a result of the nature of the patient's employment. "Failure to give such notice renders a practitioner liable to a fine."

1. Von Jagic, Schwarz and Siebenrock: Berl. klin. Wchnschr., 1911, xlviii, 1220; abstr. in THE JOURNAL, August 12, p. 595.

are exposed to these mysterious agencies. As the infectious nature of leukemia and its relation to the true malignant neoplasms are matters under active discussion, the fact that *x*-rays may cause leukemia is a strong point in favor of the view that leukemia is a form of malignant disease, and also, presumably, against the parasitic origin of the disease.

Current Comment

SENATOR WORKS AND THE LOS ANGELES COUNTY SOCIETY

Last July Senator Works of California made a seven-hour speech in the United States Senate. Under the guise of opposition to the Owen Bill, this speech was in reality an attack on the American Medical Association and a defense of "Christian Science." In explanation of his adherence to this cult, Senator Works made some statements regarding certain diseases for which he and members of his family had been treated by Los Angeles physicians, without relief, and of which they had been cured through "Christian Science." The Los Angeles County Medical Association, naturally desiring to know the facts, asked Senator Works what these "incurable" diseases were, who were the physicians and what had been the treatment. Senator Works declined to give any of this information. Ex-Senator Chandler of New Hampshire also wrote Senator Works, asking for definite information, and also asking whether or not it is true that Mrs. Harriet W. Works, a "Christian Science" practitioner of Los Angeles, is his wife. Senator Works, in his replies, refused to furnish any detailed facts to support his vague statements in the Senate, so that his case rests practically on his reputation for veracity. All of this correspondence, with editorial comments, appears in the *Bulletin of the Los Angeles County Medical Association*,[1] November 11. The county association is to be congratulated on the way in which it has called its distinguished senator's bluff, and has demanded proof of his assertions. It is singular how indignant adherents of Mrs. Eddy always become when incredulous and hard-headed people ask for facts in place of vague generalizations. Senator Works undoubtedly has a right to champion Eddyism in the United States Senate, if he so desires, whatever one may think of his good taste in discussing his family affairs in public. Since he has done so, however, the public has a right to ask him to produce facts to support his statements and not to attempt to hide behind his senatorial dignity.

PROGRESS

Lawrence County, Pennsylvania, has a live medical society and publishes a periodical, the *Bulletin*, that reflects the progressiveness of its members. The following paragraph taken from the *Bulletin* is of interest because it indicates the change that has taken place in the point of view of the medical profession on the proprietary evil. That the opinions there expressed are also held elsewhere is evident from the fact that the paragraph was reprinted in the *Roster*, the official journal of the Columbia County (Pa.) Medical Society. Here it is:

> "Several of us had a spirited interview with a representative of a well-known drug house recently. He presented his usual assortment of samples of mixtures, and when they were not enthusiastically and thankfully received, he entered on a tirade against the practice of medicine, and the American Medical Association. He said medicine was a farce, and the Council on Pharmacy and Chemistry a fraud. When told that when he slandered the American Medical Association he slandered each of us personally, he tried to modify his statements. Why don't all you fellows pass up such rot as Manola, Sedatole, Uritole, Genaton, Rigamarole and all the rest? The drug people put up this sort of stuff because they can find doctors in plenty who will use it, and don't know any better."

The statement in the last sentence is unfortunately true, but as the number of physicians like those of Lawrence and Columbia counties increases, the sales of proprietary remedies will correspondingly diminish. And the number of such physicians—fortunately for the public and for the honor of the profession—is increasing daily.

CHOLECYSTITIS—COLICYSTITIS—COLEOCYSTITIS—CYSTITIS COLLI

Some years ago we had occasion[1] to deplore the introduction of the word "colicystitis," which invites confusion and misunderstanding through its phonetic resemblance to "cholecystitis." We are now threatened with "cystitis colli," a term made in Germany (or at least much used there), and signifying "inflammation of the neck of the bladder." To these must also be added the term "coleocystitis"—"inflammation of the vagina and bladder"—which has gained admission to at least one dictionary; and the consequent sorrows of the proof-reader ought to wring tears from the hardest-hearted lexicographer. The "portmanteau word" undoubtedly is a convenience under proper conditions; but four portmanteaus externally so similar as these, though packed for different occasions, are likely to prove anything but a blessing.

THE SCORE-CARD SYSTEM APPLIED TO FOOD PURVEYORS

Ogden, Utah, like many other cities, has a municipal ordinance relating to the sanitation of butcher-shops, bakeries, groceries, restaurants, etc. In the enforcement of this ordinance the food inspector has adopted a system of scoring these places in a manner similar to the score-card system of rating dairies, which is now largely used. Not only this—but the scores are published in the newspapers, giving the names—a method certainly conducive to reform. The idea is an excellent one, and is capable of development and application in any city where inspections are made. It substitutes system, certainty and publicity for indefinite methods. It could be made a part of every city ordinance regulating the distribution of food products to the people,

1. A copy may be obtained by sending a stamped envelope to the secretary, Dr. George H. Kress, 240 Bradbury Bldg., Los Angeles.

1. THE JOURNAL A. M. A., April 25, 1908, p. 1355.

and would be particularly applicable to restaurants, in many of which conditions are not what they should be. The regulation, once understood and fairly carried out, could no more justly be the object of criticism than could similar regulation of dairies. Experience shows that the objections of farmers and dairy-men rapidly subside as the objects, advantages and fairness of the system are understood. Many municipal ordinances on the subject of restaurants are comprehensive enough to secure ideal conditions if rigidly enforced; but they are not effective on account of lack of system in inspections and lack of vigor in enforcing their provisions. Here is a simple means of acquiring system and promoting fair enforcement. The feature of publicity as adopted by the city of Ogden is also a good one and should have a salutary effect. The repeated publication of a low score will stimulate careless restaurant-keepers to improve conditions on penalty, not only of fines for failure to comply with ordinances, but also in the way of loss of trade. We recommend the development of the score-card system of inspection as a part of all municipal regulation of restaurants and all places where food is offered for sale.

POISONING BY ILLUMINATING GAS

According to Professor Sedgwick, of the Massachusetts Institute of Technology, deaths from gas poisoning in certain parts of this country have recently exceeded those from such serious diseases as scarlet fever, infantile paralysis and typhoid fever. In Massachusetts and Rhode Island it has become a very important cause of death and serious sickness and this is more or less true in other parts, especially in the northern tier of states. In 1909 the death-rate for measles in Massachusetts was 4.76 and that for scarlet fever 7.86, figures exceeded or approached by the statistics for gas poisoning in Rhode Island for the previous year and in Massachusetts in 1907. The number of deaths from this cause has rapidly increased in Massachusetts since the repeal of the law regulating the amount of carbon monoxid in gas, according to Professor Sedgwick in his paper read before the Massachusetts Association of Boards of Health.[1] In the fifty years preceding the repeal of the law there were not half a dozen cases of gas poisoning outside of two or three where the gas was being used in Massachusetts in violation of the law. During the twenty years since, there have been more than 1,200. The remedy, according to Professor Sedgwick, is to go back to the old-fashioned coal-gas and prevent the use of water-gas which is so generally manufactured for illuminating purposes. Coal-gas is still used in many places and is said not to be much, if at all, more costly than the extensively used water-gas, though it is somewhat more troublesome to make. Of course the mortality statistics do not tell the whole of the damage done by gas poisoning; permanent bad effects are often left when the poisoning is not fatal, but according to Sedgwick's figures as regards the fatalities alone, the matter of poisoning by illuminating gas is one well worth attention by legislators.

1. Jour. Infect. Dis., November, 1911.

Medical News

CALIFORNIA

Solano Physicians Meet.—At the annual meeting of the Solano County Medical Society held in Vallejo, Dr. Bernard J. Klotz was elected president; Dr. William E. Downing, vice-president; Dr. Alexander V. Doran, San Francisco, secretary, and Dr. James W. Brownlis, treasurer, all of Vallejo.

County Health League Organized.—The Fresno Health League for Fresno city and county was organized, October 20. The object of the organization is the prevention of disease and the promotion of health. Mr. W. W. Phillips was selected as temporary chairman and N. J. Levinson, secretary. The committee appointed to draft a constitution includes Drs. George H. Aiken, George A. Hare and Walter P. Miller.

Campaign Against Tuberculosis.—A state-wide campaign has been launched against tuberculosis by the State Board of Health. At a recent meeting of the Board in Sacramento, an executive committee was named, consisting of Drs. George H. Kress, Los Angeles; Charles C. Browning, Pasadena, and Richard G. Brodrick, San Francisco; Mr. A. Bonnheim, Sacramento, and Miss Catherine C. Felton, San Francisco. Tuberculosis, as it affects the poorer classes, will be studied in particular.

San Diego Notes.—Drs. H. Clifford Loose, Bernard J. O'Neill and Harry M. Wegeforth have been appointed members of the San Diego Board of Health. A vigorous campaign for the betterment of hygienic conditions in the city has been inaugurated. The first result of this being the creation of a board of meat and milk inspectors, headed by a veterinary surgeon. The inspectors are to be appointed by the board of health.——A dairy for certified milk is in preparation and will be opened in a short time.

New Hospitals.—The new Children's Hospital, San Francisco, was formally opened October 20. The building is four stories and a sub-floor in height. Three stories are especially fitted up for women and the top floor is entirely reserved for children.——The corner stone of St. Luke's Hospital, San Francisco, was laid with impressive ceremonies by Bishop Ford, October 18. The new hospital is to cost about $400,000.——Dr. Harold S. Warren, Montague, is planning to erect a hospital at Taft, to cost $4,000.

Psychopathic Hospital for Los Angeles.—The superintendent of construction of the county hospital has completed plans and specifications for a psychopathic ward to be erected on the county hospital property on Mission Road. The building will be 224 by 142 feet and will surround a court, 120 by 72 feet. The front portion will be three stories and the wings and rear two stories in height. There will be two wards of eight beds each and the remainder will be divided into single rooms. Accommodation will be provided for ninety-eight patients, and the building will cost about $100,000.

Sanitary Districts.—California has been divided into fifteen sanitary districts for administration in case of the invasion of any communicable disease which might spread through the state. These districts and their administrative centers are as follows: Humboldt District, Eureka; Tehama District, Red Bluff; Lassen District, Alturas; Sonoma District, Santa Rosa; Sacramento District, Sacramento; San Francisco District, San Francisco; Santa Clara District, San Jose; San Joaquin District, Stockton; Mono District, Bridgeport; Fresno District, Fresno; Santa Barbara District, Santa Barbara; Los Angeles District, Los Angeles; Kern District, Bakersfield; Riverside District, Riverside, and San Diego District, San Diego.

Personal.—By resolution of the San Francisco Board of Health, November 14, the present advisory committee of the municipal clinic was removed and a new committee appointed, of which Dr. George K. Frink is the medical member.——Dr. Frederick L. Wright, Oakland, Mariposa, was shot and slightly wounded by a nurse, formerly in his employ, November 7.——Major Oliver C. McNary, Santa Monica, has resigned as chief surgeon of the National Home for Disabled Volunteers, Soldiers' Home, Cal.——Dr. Waid J. Stone, physician at the state penitentiary, San Quentin, has resigned.——Drs. James C. Hanley and Charles A. McQuesten have been appointed members of the Board of Health of Alameda.——Dr. Alexander S. Kelly, Oakland, has returned from Europe.——Dr. James H. Parkinson has been reappointed a member of the Sacramento Board of Health.

COLORADO

Disinfection for Tuberculosis.—A committee on public health of the Denver Chamber of Commerce has requested the mayor

to include in his budget an appropriation for $2,000 for the purpose of disinfecting premises occupied by the tuberculous poor.

Catholic National Tuberculosis Sanatorium.—At the recent meeting of archbishops of the Roman Catholic Church in the United States, in Baltimore, the proposition to establish in Denver a Catholic National Hospital for consumptives was favorably reported.

State Charities.—At the semi-annual conference of the State Board of Charities it was announced that $722,822 had been spent during the last year on state and county charities. Of this amount $125,728 was spent for the fourteen county hospitals and $14,676 for salaries to county physicians. Of the inmates of state and county institutions, 57 per cent. are said to be of foreign birth.

Personal.—The Colorado Ophthalmological Society tendered a complimentary dinner to Dr. Edward Jackson, Denver, at the University Club, October 21.——Dr. Patrick V. Carlin, Denver, was presented with a loving cup, November 17, by his friends and associates. Dr. Carlin has been obliged to go East, on account of ill health.——In accepting the resignation of Dr. S. D. Van Meter, Denver, as secretary-treasurer of the State Board of Medical Examiners, the board paid a glowing tribute to the work done by Dr. Van Meter during his term of office under five successive governors.

ILLINOIS

Gift to Sanatorium.—Mrs. George T. Smith, Chicago, has given a check for $2,000 to the Edward Sanatorium, Naperville.

License for Sanatorium.—The Board of Administration on November 14 authorized the issuance of a state license to Dr. George W. Mitchell, Peoria, to operate the Peoria Sanitarium in that city.

Personal.—Dr. George F. Butler, Wilmette, has been appointed physician of Cook County, vice Dr. Thomas S. Crowe, resigned.——Dr. Vance M. Powell, Peoria, who has been seriously ill, is reported to be improving.

Antituberculosis Society Organized.—The Aurora Society for the Prevention and Cure of Tuberculosis was organized at a meeting held November 6. Dr. James W. Selkirk, Aurora, was elected vice-president of the association and a committee was appointed to secure a cottage to be used this winter for the care of local tuberculosis patients.

Chicago

Personal.—Dr. Stephen R. Pietrowicz, Chicago, has been appointed superintendent of the Cook County Institutions, Dunning.——Dr. Helen M. Parker has rented the old Lewis Hospital, Bay City, Mich.

University Buys Property.—Northwestern University has purchased eleven parcels of property, both improved and vacant, on Dearborn Street, between Twenty-Fourth and Twenty-Fifth Streets, adjoining the medical school and also facing the Wesley Hospital, for approximately $150,000. This property is purchased to meet the present and future needs of the medical school.

Memorial Institute for Infectious Disease.—A site for the Memorial Institute for Infectious Diseases, to be built with funds bequeathed by Mrs. Annie W. Durand, has been selected and purchased. It is at the corner of Wood and York Streets and has a ground area of 100 by 126 feet. The building will be four stories and a basement in height and will cost with its equipment about $200,000.

Health Commissioner Asks Larger Appropriation.—Dr. Geo. B. Young, health commissioner, has asked for an appropriation of $300,000 to build an isolation hospital for contagious diseases, and $50,000 for two new public bath houses and the enlargement of the three bath houses. The entire appropriation asked for by the health department is $1,186,030.83, or $539,935.02 in excess of that for 1911.

Conservation of Infants.—The members of the Chicago Medical Woman's Club, at its meeting, November 9, are said to have pledged themselves to take maternity cases at the same figures asked by midwives. The club is making an effort to raise the standard among midwives by securing more stringent regulations for licenses, more thorough inspection and more severe penalties for violation of laws.

Open-Air Schools.—Twenty-five pupils were picked out for the first class of the new Elizabeth McCormick Open-Air School on the roof of Hull House to try the new class-room, November 14, and the school was formally opened on the following day.——At the present time five open-air schools are being operated by the health department, assisted by the Board of Education and the United Charities, and the health commissioner desires to open still more schools of this kind.

Tuberculosis Notes.—Dr. William T. Brown, director of the Valmora Industrial Sanatorium, Watrous, N. Mex., which was founded by some of the large business firms of Chicago for the care of their tuberculous employees, reported that during the year and a half of the establishment of the sanatorium, seventy-one patients had been treated, the majority of whom had been entirely restored to health.——The Chicago-Winfield Sanatorium announces an increase in the number of its directors from seventeen to twenty-one.

MISSISSIPPI

State Health Day.—November 17 was generally observed throughout the state as "Health Day," and members and field agents of the State Board of Health and physicians in many communities gave addresses on sanitation and hygiene.

Personal.—Dr. Hall Knox, Houston, is seriously ill with pellagra.——On the retirement of Dr. Robert J. Turner, Bay St. Louis, from active practice, a number of citizens presented him with a handsome tea service. Dr. Turner will reside with his son and family in Jacksonville, Tex.——At the meeting of the Harrison County Medical Society at Gulfport, November 8, the nomination of Dr. Charles G. McEachern, Moss Point, for member of the State Board of Health, was indorsed.

NEW HAMPSHIRE

Tuberculosis Ward Accepted.—The new tuberculosis ward at Hillsboro County Hospital, Grasmere, was completed November 8 and has been inspected and accepted by the commissioners. The twelve tuberculosis patients now at the county hospital are to be moved into the new ward.

County Medical Society Meeting.—At the seventh annual meeting of the Rockingham County Medical Society held in Portsmouth, November 9, the following officers were elected: president, Dr. John G. W. Knowlton, Exeter; vice-president, Dr. Fred Fernald, Nottingham; secretary, Dr. Walter Tuttle, Exeter; treasurer, Dr. Alice M. Chesley, Exeter; and delegates to the state medical society, Dr. Albert Buswell, Eppling, and Dr. John H. Neal, Rochester.

NEW JERSEY

Hospital for Lakewood.—A charter has been obtained for a hospital for Lakewood, as a memorial to the late Dr. Paul T. Kimball, and $30,000 has already been subscribed for the institution.

New Medical Society.—Physicians of Ridgewood and vicinity have organized the Ridgewood Medical Society and elected the following officers: president, Dr. William L. Vroom; vice-president, Dr. Cornelius A. Demund; secretary, Dr. William C. Craig, and treasurer, Dr. George M. Ockford, all of Ridgewood.

Hospital Physicians Organize.—At a meeting of the staff of the Orange Memorial Hospital held in Newark, November 6, the Orange Memorial Hospital Medical Society was organized and the following officers were elected: president, Dr. John Hammond Bradshaw, Orange; vice-president, Dr. Edgar Calvin Seibert, Orange; and secretary-treasurer, Dr. Leonard H. Smith, East Orange.

Memorial to Deceased Members of Staff.—In memory of the physicians of the visiting and dispensing staff of the Elizabeth General Hospital a bronze tablet inscribed with their names was unveiled at the hospital, November 3. The presentation speech was made by Dr. Norton L. Wilson, president of the staff, and the tablet was accepted by the president of the board of managers.

Associated Physicians of Montclair.—The Associated Physicians of Montclair and Vicinity have commenced the third annual series of meetings. The society is composed of about fifty members, of both schools of medicine, and was organized for the promotion of social and professional feeling and mutual instruction. At each monthly meeting an address is made by some prominent member of the medical profession, followed by a general discussion and a social half hour. The officers for the present season are: president, Dr. Henry Wallace, Glen Ridge; vice-president, Dr. James W. Kirchbaum, Upper Montclair, and treasurer, J. Corwin Mabey, Montclair.

NEW YORK

The Otisville Sanitarium.—The Tuberculosis Sanatorium of the New York Department of Health at Otisville has been steadily increasing its work. The average daily census of patients during 1910 was 350; during the first nine months of

1911, the daily average has been 420, and by Jan. 1, 1912, the capacity of the institution will be 500 patients. Plans are being carried out which will give accommodations for 100 more by July 1, 1912.

A Year's Campaign for the Prevention of Insanity.—The report of the committee on mental hygiene of the State Charities Aid Association shows that during the past year 366,000 persons in the state have received a pamphlet entitled "Why Should Anyone Go Insane," issued by the committee, giving some of the facts as to the extent, causes and prevention of insanity. Another feature of the campaign has been the sending out of 24,845 circular letters asking cooperation, to physicians, clergymen, teachers, social workers and heads of various organizations. Of these 13,500 went to physicians alone. It is estimated that through lectures, public meetings, magazine articles, pamphlets and letters more than 500,000 persons have been reached. Among new agencies for the treatment of incipient insanity inaugurated during the past year are the out-patient department of the Long Island State Hospital in Brooklyn, the new Psychopathic Hospital at Syracuse, and plans for two clinics for mental diseases, one to be established at Kings County Hospital and the other at the new Gouverneur Hospital in New York City.

New York City

For Portrait of Dr. Wyeth.—Subscriptions are being taken to purchase a photograph of Dr. John Allen Wyeth for presentation to the gallery of presidents of the New York Academy of Medicine. Subscriptions will be received by Dr. Simon Baruch, 51 West Seventieth Street, New York City.

Personal.—Dr. Morris J. Karpas of the Manhattan State Hospital has been appointed first assistant in the psychopathic ward at Bellevue Hospital. Dr. Benjamin F. Vosburgh has been appointed first assistant in the alcoholic ward.——Dr. Albert W. Ferris, Manhattan, has resigned as the medical member of the State Commission in Lunacy.

Free Hospitals Need Money.—According to the annual report of the Hospital Saturday and Sunday Association, some 1,235,524 days of free hospital treatment were given in this city during the year just ended by the forty-five hospitals belonging to this association. The amount contributed to the association during the year was almost $116,000, or about 28 per cent. more than in 1910. They are asking for a contribution of $200,000 when the next collection is taken up on the last Saturday and Sunday of the year.

The Board of Health and Infantile Paralysis.—The Board of Health has assigned inspectors to all orthopedic hospitals and dispensaries to insure complete reports of all cases of infantile paralysis. Circulars will be issued to every family in which a case occurs, giving information on the disease and its treatment. A minimum of six weeks' quarantine will be established and renovation or disinfection of bedding and houses will be required. A circular calling attention to these requirements will be sent to all physicians and henceforth they will be required to report all cases of infantile paralysis to the health department promptly.

Lecture on Cancer.—The New York Skin and Cancer Hospital announces that a lecture will be given by Dr. de Keating Hart of Paris, France, December 4, in the out-patient hall of the hospital, at 8 o'clock, on the "Fulguration Treatment of Cancer." The lecture will be illustrated by stereopticon pictures and charts, and on the following mornings of the week there will be practical demonstrations on patients, of the new fulgurating apparatus of the hospital. Cards of admission for these demonstrations will be issued by the research committee on request made to Charles C. Marshall, chairman of the executive committee of the hospital.

NORTH CAROLINA

New Hookworm Dispensaries.—Wake and Vance counties have recently been added to the list of counties whose commissioners have appropriated funds for the operation of hookworm dispensaries under the direction of Dr. J. A. Ferrall, assistant secretary of the State Board of Health for Hookworm Eradication.

National Guard Changes.—Captain J. F. Clemenger, Asheville, has been promoted to major, M. C., N. C. N. G., Captain Claude N. Pridgen, Kinston, has been promoted to major, Lieutenant William C. Horton, Raleigh, to captain, and Dr. A. Campbell, Morganton, has been commissioned first lieutenant in the Medical Corps.

Personal.—Dr. Paul V. Anderson, assistant physician to the State Insane Hospital, Morganton, has resigned.——Dr. Fonso B. Watkins has been appointed first assistant physician at the State Hospital, vice Dr. James K. Hall, resigned.——Dr. T. E. Hughes, Magnolia, has accepted an appointment as assistant director of the work against hookworm disease.

Hospital News.—Plans are being made for a new mission hospital, Asheville, which is to cost $75,000 and will occupy a site adjoining the present building.——Dr. Frank T. Meriwether, Asheville, has broken ground for a thirty-room addition to the Meriwether Hospital.——Dr. Jacob H. Shuford, Hickory, has recently completed and opened a three-story, brick, fireproof, private hospital with accommodation for thirty patients.

PENNSYLVANIA

Personal.—Dr. Charles K. Ferer has been elected a member of the school board of Meadville.——Dr. W. T. Dutton, Meadville, is reported seriously ill with heart disease.

Contract Practice.—At the meeting of the Wilkinsburg Medical Society, November 20, a resolution was unanimously adopted that each member should sign a paper agreeing never to engage in any contract lodge work and, furthermore, that all local physicians should be asked to sign this paper.

Examination of School Children.—Dr. Samuel G. Dixon, State Commissioner of Health, has appointed more than 500 physicians in 321 boroughs and 460 townships to make a thorough inspection of every child, and wherever a pupil is found defective in hearing, sight or otherwise in need of attention, the parents will be notified by the commissioner. The inspection will begin at once and two weeks will be required to complete it. The physician conducting the inspection will make his report to Dr. Dixon, who will send a duplicate to the teacher in charge, who in turn will notify the parents. The pupils' vision will be tested by the use of test type charts and the degree of impairment of sight noted. This will be followed by hearing tests and an examination of the cervical glands, examinations for skin diseases, nervous disorders, infectious diseases, deformities and into the general nutrition of the child. The inspector will also make a thorough report on the sanitary conditions of the school and its surroundings. The amount of lighting space in proportion to the floor area will be computed and the number of cubic feet of air space per pupil; the method of heating, whether steam, hot water, stove and the location of the apparatus and the water supply will be given attention. The care of the water in the school room will also be a subject for examination.

Philadelphia

Club Excludes Lodge Doctors.—At the last meeting of the board of directors of the Medical Club of Philadelphia it was enacted that the board of governors should not recommend any person known to be engaged in lodge practice and that he shall be considered ineligible to membership in this club.——Similar action was recently taken by the Medicolegal Society here, so that the club doctor is now practically excluded from all Philadelphia medico-social functions.

Child Welfare Conference Dinner.—A subscription dinner to include all those interested in the different branches of Child Welfare work in Philadelphia and vicinity will mark the culmination of the Conference on Child Welfare to be held in City Hall from November 20 to December 2. The mayor has appointed the following committee to have charge of the dinner: Dr. Robert N. Willson, chairman; Mrs. Charles H. Frazier, Mrs. R. R. Porter Bradford and Dr. Joseph S. Neff.

Officers Elected.—At the meeting of the Aid Association of the County Medical Society, the following officers were elected: president, Dr. Roland G. Curtin; vice-president, Dr. Jacob R. Shellenberger; secretary, Dr. Lewis H. Adler; treasurer, Dr. John B. Turner; solicitor, Francis C. Adler; directors for three years, Drs. Isidor P. Strittmatter, William S. Wray and William T. Hamilton. Dr. James M. Anders was elected a director for two years to fill the vacancy caused by the death of Dr. John C. DaCosta and Dr. Charles A. E. Codman, a director for one year to fill the vacancy caused by the resignation of Dr. Alexander R. Craig. An appropriation of $200 was made for the physicians who were sufferers in the Austin flood. Appropriate resolutions were adopted on the death of Dr. Charles A. Oliver.

TENNESSEE

Aid for Tuberculosis Hospital.—The county court of Davidson County, at its session October 2, adopted a resolution that $10,000 should be borrowed by the finance committee for the use of the tuberculosis hospital.

Medical Staff of Juvenile Court.—The personnel of the medical staff of the juvenile court of Memphis is follows: medicine, Drs. J. J. Cullings, Memphis; Joseph M. Smith, M.

Springarn and W. L. Williamson, Milan; diseases of the eye, ear, nose and throat, Drs. Edward C. Ellett, Harry F. Minor and George H. Savage; nervous diseases, Drs. Henry Posert, W. G. Somerville and B. Frank Turner; skin diseases, Drs. Robert G. Henderson and L. H. Pendergrast; orthopedic surgery, Drs. Willis C. Campbell and Robin Mason; children's diseases, Dr. William W. Mitchell, and consulting surgeons, Drs. George R. Livermore and Edward D. Mitchell.

New Medical Officers for the National Guard.—The adjutant general has issued an order appointing the following examining board for candidate medical officers and for promotion in the medical corps of the state: Brigadier-General James H. McCall, Huntingdon, surgeon-general, and Majors James R. Nankivell and Buford N. Dunavant, Memphis, medical corps. This board has in charge the examination of all candidate officers for the medical corps, N. G. S. T. Its first meeting was held in Nashville, November 9, and its second meeting in Knoxville, November 11. As a result of the second examination, Drs. Robert H. Newman and Karl Rogers, Knoxville, have been commissioned as first lieutenants in the medical corps.

TEXAS

Northeast District Physicians Meet.—At the annual meeting of the Northeast Texas Medical Society held in Texarkana, November 14, Dr. Samuel C. Ball, New Boston, was elected president; Dr. E. Y. Anthony, Omaha, vice-president; Dr. Robert H. T. Mann, Texarkana, secretary, and Dr. C. A. Smith, Texarkana, treasurer.

GENERAL

Yellow Fever and Plague.—Owing to the appearance of sporadic cases of yellow fever in Central America and more frequent cases in South America, the government of Hawaii is making a determined effort to rid the Island of Oahu of the *Stegomyia fasciata* which breeds in Hawaii in great numbers. On October 23 the steamship *Hongkong Maru* arrived from Manzanilla with a case of yellow fever aboard.——A case of bubonic plague is said to have appeared on the Isthmus of Panama. The patient, who had sailed from a port in Ecuador, South America, passed the quarantine station and was admitted to a hospital, in which he died. The condition is said not to have been recognized until autopsy was made. The quarantine period for passengers from plague-infected ports has been extended from six to seven days.

Personal.—Passed Assistant Surgeon George W. McCoy, U. S. Public Health and Marine-Hospital Service, has been relieved as director of the Federal Plague Laboratory at San Francisco, and detailed as director of the U. S. Leprosy Investigation Station, Honolulu, Hawaii.——Lieutenant Herbert W. Yemans, M. R. C., U. S. Army, enthusiastic Esperantist, and for several years on duty at Fort Wayne, Detroit, has been ordered to the Philippines for duty, and will sail from San Francisco, January 5.——Lieutenant Maurice Buchsbaum, M. R. C., U. S. Army, has returned from the Philippines to Chicago, where he will enter private practice.——Dr. Holmes F. Troutman has resigned as chief of staff of Queen's Hospital, Honolulu, and has been appointed chief surgeon for three large sugar plantations in one of the Hawaiian Islands.

Bequests and Gifts.—The following bequests to hospitals have recently been announced:

Alfred Heinsheimer has given $15,000 toward the purchase of two houses adjoining the Hospital for Deformities and Joint Diseases, New York City, and $10,000 for the maintenance of a room.

By the will of the late William Bonsall, Philadelphia, a contingent bequest of $80,000 is made to the Presbyterian Hospital.

The will of the late Frank Haseltine, Philadelphia, contains bequests to the University, Jefferson and Pennsylvania Hospitals amounting to $29,650.

The will of the late John S. Hurst, Philadelphia, gives $15,000 to the Methodist Hospital.

Henry E. Pierrepont in his will left $10,000 to the Brooklyn Hospital.

The late Mrs. Mary E. Prichard, Corona, N. Y., bequeathed $1,000 to the St. Johns Hospital, Long Island City.

By the will of the late Moses Richardson, Boston, $10,000 is bequeathed to the Free Hospital for Women, Brookline, and $5,000 to the Cottage Hospital, Baldwinville, Mass.

American Association for the Conservation of Vision.—This organization is inaugurating a wide-spread campaign of public education to call the attention of people to the care and preservation of their eyesight. The association has recently moved to new offices at 105 East Twenty-Second Street, New York City. A recent election of officers leaves the personnel as follows: president, Dr. F. Park Lewis, Buffalo; vice-president, E. L. Elliott; acting secretary, Douglas C. McMurtrie; acting treasurer, T. Commerford Martin. Dr. Hiram Woods of Baltimore is on the board of managers and Dr. George Lord de Schweinitz of Philadelphia is director of the Department of Diseases and Defects of the Eye. Among the publications of the association are its *Bulletin* and monograph series, the first of a popular, and the latter of a technical nature. The first issue of the *Bulletin* is entitled "Conserving Vision," compiled by Douglas C. McMurtrie and edited by George Lord de Schweinitz, M.D., F. Park Lewis, Buffalo, M.D., Louis Bell, Ph.D., and E. Leavenworth Elliott. The first issue of the monograph series, edited by Douglas C. McMurtrie, is entitled "Ophthalmia Neonatorum in Ten Massachusetts Cities," by Henry Copley Greene. The association has now in press additional instructive booklets of a popular nature.

Railway Surgeons' Meetings.—At the twenty-first annual meeting of the New York and New England Railway Surgeons' Association held in New York City, November 16, a report was unanimously adopted providing for the reexamination of all railway employees under the following conditions: Three years after the date of the last examination; after an accident that may have been due to defective vision, color sense, hearing or general condition; after recovery from any serious illness or injury, and after any severe inflammation or disabling affection of the eyes or ears; yearly, if ordinary conversation cannot be heard at twenty feet; enginemen and firemen in road service, conductors and brakemen in road and yard service, enginemen and firemen in yard service, train baggagemen, switch tenders and hostlers yearly, if the vision of one eye falls to 20-40 without glasses; signalmen, towermen, telegraph and telephone operators, station agents, yearly, if the vision of one eye falls to 20-50 without glasses. The following officers were elected: president, Dr. Walter Lathrop, Hazelton, Pa.; vice-presidents, Drs. John W. Le Seur, Batavia, N. Y., and Clifford A. Pease, Burlington, Vt.; corresponding secretary, Dr. George Chaffee, Brooklyn, N. Y.; recording secretary, Dr. J. H. Reed, Troy, N. Y., and treasurer, Dr. James K. Stockwell, Oswego, N. Y.——The twenty-fourth annual meeting of the Wabash Railway Surgical Association was held in St. Louis, November 16. Dr. Matthew W. Pickard, Kansas City, Mo., was elected president, and Dr. Porter M. Parish, Decatur, Ill., vice-president. St. Louis was selected as the meeting place for next year.

Marie Feodorovna Prize Competition for 1912.—At the Seventh International Red Cross Conference held in St. Petersburg in 1902, the announcement was made that the Dowager Empress Marie Feodorovna of Russia had instituted a fund for prizes to be awarded to the originators of the best inventions for the purpose of relieving the sufferings of wounded and sick soldiers. This fund amounts to 100,000 rubles or approximately $50,000, but as the interest is disbursed in prizes only every five years, the amount to be so distributed is about 20,000 rubles or approximately $10,000.

The first awards were made at the eighth conference in London in 1907. On this occasion there were no American competitors. The second award will, however, be made in this country in connection with the Ninth International Red Cross Conference, which will be held in Washington, D. C. next May. The American Red Cross is making great preparations for this conference, even to the extent of erecting a special building for the exhibition. A government appropriation has been obtained and also congressional approval for locating the building on public ground.

Besides the exhibition of articles offered in competition for the Marie Feodorovna prizes there will be a general Red Cross exhibit in the same building. This will comprise exhibits made by Red Cross associations throughout the world, and should serve to show how thoroughly well organized and efficient such associations are in other countries. Furthermore, our own Army and Navy will have extensive exhibits. The former contemplates an exhibit which will consist of a field hospital and an ambulance company completely equipped for field service. The Navy will show methods for caring for wounded on shipboard. The American Red Cross will install a rest station which will be conducted by some of its enrolled women nurses. "First Aid to the Injured" competitions for prizes offered by the American Red Cross will be another interesting feature of the meeting.

The Marie Feodorovna prizes are offered for competition to everyone who cares to enter an invention or innovation. There will be nine of these prizes, one $3,000, two $1,500 each, and six of $500 each. The maximum prize will be awarded to the best invention as determined by judges irrespective of the subjects, and so on down the list.

The subjects are as follows:

1. Organization of the methods of evacuation of the wounded on the battlefield, comprising as complete an economy as possible in litter bearers.
2. Portable (surgeons') washstands for war.

3. Methods of packing dressings at the aid stations and in the ambulances.
4. Wheeled stretchers.
5. Carriage of stretchers on mule-back.
6. Folding stretchers easily portable.
7. Transport of the wounded between war vessels, hospital ships and the coast.
8. The best method of heating railroad cars by a system independent of steam from the locomotive.
9. The best model of a portable Roentgen apparatus, permitting utilization of *x*-rays on the battlefield and at first aid stations.

It will be noted that Subjects 1 and 7 do not really compel exhibitors to submit apparatus, though possibly some such apparatus might be supplied in connection with the monographs. Models are, however, required for all the other subjects. Preferably these should be full-sized, working models which may be demonstrated under actual conditions simulating those of field service. Small models and drawings and specifications are not excluded from consideration.

It is of course realized that the material of the medical department in war is of somewhat less importance than a trained personnel; still it is of extreme importance if sick and wounded are not to undergo unwarranted sufferings. It is hoped that many persons may be induced to enter inventions in the Marie Feodorovna Prize Competition and thus assist in carrying out the humane purposes of the donor of the fund.

Full details in regard to this competition may be obtained from the American Red Cross, Washington, D. C.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Nov. 18, 1911.

Sir Samuel Wilks, Bart., M.D., F.R.S.

Sir Samuel Wilks, Bart., M.D., F.R.S., past president of the Royal College of Physicians of London, sometime physician extraordinary to Queen Victoria, consulting physician to Guy's Hospital, died last week at his residence in London on November 8, in his eighty-eighth year. A great pathologist, a great physician, a striking personality, he occupied a prominent place in the profession for more than half a century. Born in London in 1824, he was apprenticed to a surgeon in 1840 and studied at Guy's Hospital. In 1847 he became a member of the Royal College of Surgeons and in the following year graduated with honors at the London University. In 1851 he became a member of the Royal College of Physicians, and in 1856 a fellow. He filled in succession most of the offices of the College—examiner, councilor, censor, and finally president (1896-99). At Guy's Hospital he passed through the stages of medical and surgical registrar, curator of the museum, demonstrator of morbid anatomy, lecturer on pathology, assistant physician, lecturer on medicine and full physician. He was a great teacher and his contributions to medical literature were numerous and valuable. His most important work was in pathology, of which he was one of the pioneers. He said himself that he was led to study morbid anatomy "because it offered something positive or at any rate more positive than the symptoms of disease in the patient's life-time." He was the first to describe the visceral changes of syphilis and he has recorded that when he first examined the body of a man who had died from that disease he could find no account of such an examination having been made. The fruits of his work were given to the world in 1869 in a book on pathologic anatomy which laid the foundation of scientific pathology in this country. A second edition appeared in 1875 in which the famous Dr. Moxon collaborated. The work became so famous that in pathologic discussions it was constantly quoted as "Wilks and Moxon." In it he made the statement that the interior of the body was affected by syphilis just as the exterior. This statement was so novel in that day that it was adversely criticized by a reviewer. Of this Wilks humorously said that it was his best friend as it showed his originality. As a clinician his interests were many-sided but he devoted special attention to diseases of the nervous system on which he published a book in 1878. Among the more important of his many other publications were "The Study of the Human Mind," "The Pupil of the Eye in Emotional States," "Sleep-Walking and Hypnotism," "How the Blind Dream," "The Origin of Music," "Treatment of Pneumonia," "Alcohol as a Beverage and Medicine," "Psychic Force," "Addison's Disease," "Tubercular Meningitis in Adults," "Furrows on the Nails." As this list shows, his abilities were versatile and extended beyond the range of medicine. He was a great teacher and has left an indelible impress on medical science. He was distinguished both as a pathologist and as a physician. He had the gift of rapid insight into a patient's disease from one glance. In therapeutics he was opposed to polypharmacy, not believing in long prescriptions containing salts, essences and vegetable infusions, none of which had any particular efficacy and of which one-half would perhaps neutralize the other. He believed in well-tried drugs such as mercury, digitalis, iodid, etc. When charged with skepticism he told his critics that they were the real skeptics, as they were willing to give up the drugs in which they professed so much faith as soon as new ones came upon the market.

Consumption Declared a Notifiable Disease

A government order has been issued making tuberculosis of the lungs a compulsorily notifiable disease from Jan. 1, 1912. The advisability of this step has long been under the consideration of the health authorities, and in certain districts local health authorities have adopted optional notification, making an arrangement with the doctors who voluntarily agreed to report the disease. It is now held that universal compulsory notification is an indispensable preliminary to the effective administrative control of pulmonary tuberculosis. Though the death-rate from pulmonary tuberculosis is still higher than that from any of the notifiable diseases (the specific fevers), it has shown a marked decline in the last thirty years. In 1881 it amounted to 18.25 per ten thousand; in 1891 to 15.99; in 1901 to 12.64; and in 1909 to 10.93. The decrease has coincided with a marked increase in local administrative activity, including greatly improved sanitary arrangements. While it is impossible to estimate precisely their effect in diminishing the death-rate there can be no doubt that they have had a powerful influence. At present the local health authorities have power to provide sanatoriums and dispensaries for the treatment of tuberculosis. By the order they are given further powers to supply such medical assistance, articles and facilities as may be necessary for the early detection of tuberculosis, for preventing the spread of infection, and for removing predisposing conditions. The local authorities are also empowered to appoint any additional officers required for these purposes. As stated in a previous letter to THE JOURNAL, under the national insurance bill it is proposed that a capital sum of $7,500,000 shall be set apart for the provision of sanatoriums and other institutions and further money for defraying the expenses of sanatorium treatment of insured persons. As tuberculosis differs from other infectious diseases in that it does not disable the patient from following his occupation, while the possibility of conveying infection is limited and intermittent, and infection can be prevented by the patient following the rules, it is declared necessary to educate the public on these points to prevent consumptives being exposed to the hardship of not being able to obtain work. It is also declared undesirable that notification should involve publicity and it is insisted that it should be considered confidential.

Cancer Investigation

The Imperial Cancer Research Fund has just published its fourth report. Eight years have now elapsed since the fund was established and, as previous letters to THE JOURNAL show, an enormous amount of experimental and other work has been done. The present report, however, declares that we are still confronted by facts "so new to experimental biology and as yet so imperfectly comprehended that observers throughout the world are still engaged in discussing what may be their true significance as sign-posts indicating a road or roads by which the correct advance is to be made." One of the most important facts established by the fund is that cancer occurs in practically all races of men and throughout the vertebrates living in a state of nature, even in marine fish. This wide zoological distribution shows that cancer is not a recent acquirement, such as might be referred to the influences of civilization. The fund has also shown that cancer can be transferred from one individual to another of the same species by the implantation of living cells, suggesting that it is not due to a parasite. It is now declared that the inquiry has reached the stage at which it has been established that cancer is a personal and originally local affection, depending on some part of the organism to take on a special form of redundant growth; that this growth in every individual has a certain personal element which differentiates it from others of a like kind. The redundant growth exhibits, in different subjects, every grade of difference between the most acutely malignant forms and those which are hardly distinguishable from normal tissue. The place of appearance is often determined by some form of local irritation, such as the kangri, or charcoal stove, which in cold weather the men of Kashmir carry under their garments, or the betel, which is mixed with

lime and chewed in India, or the very hot rice which is eaten in some parts of China. The cancer which arises in an individual is, so to speak, an integral part of himself. Parts of it transplanted to another place in his body are at home and take root and grow readily. There are no ascertained general causes of the tendency to cancer. Nothing in the way of dietary, place of abode or general habits of life can be fixed on as likely either to increase or diminish the tendency to cancer. In regard to heredity, the report confirms a belief which is widely held but which could not be proved until experiments had been made on many generations of short-lived animals. In this country the registration of the causes of death has not been in operation over the course of one long life. Moreover, cancer being a disease of declining life, a large proportion of the descendants of cancerous parents might not live long enough to develop a tendency latent in their systems. By observations extending over many generations of mice, the somewhat greater liability due to descent from cancerous female ancestors has been found. But this is not of so marked a kind as to be likely to exert any discoverable effect on individuals of the human race. Thus the conclusion of the report is that cancer is due to some personal tendency on the part of the individual in whom it appears, and external causes are only operative in that they determine by irritation the part in which the tendency will first display itself. The nature of this tendency is a subject to be investigated and until it is solved the question of prevention cannot be entertained. As to treatment, early and complete removal is imperative and if carried out will, in the majority of cases, result in cure.

The Health of the Nation

The annual report of Dr. Newsholme, chief health officer of the Local Government Board for the year ending March 31 last, has just been issued and shows a gratifying improvement in the public health. The annual death-rate per thousand living for England and Wales has fallen during the last four decades from 21.4 through 19.1, 18.2 to 15.3; and the rate for 1910 was 20 per cent. lower than for 1900. A large part of the life-saving is due to a diminution of infant mortality, which was 30 per cent. lower in 1910 than in 1901. Substantial reductions have occurred in the mortality of the diseases which are most obviously under the control of sanitation, such as typhoid fever, scarlet fever and diphtheria. The death-rate of the last disease was 50 per cent. lower in 1910 than in 1901. Typhoid fever is taken as the best illustration of the value of national sanitation, as its past history shows no marked changes in severity of attack, or of cyclical changes in prevalence, like scarlet fever and diphtheria. Since 1869 it has shown an almost uninterrupted decline in mortality, which is chiefly attributable to public health work, and particularly to the general provision of public supplies of water. In the year 1910 it caused 1,848 deaths in England and Wales. If the death-rate of the decade 1871-80 had been maintained the deaths would have amounted to 11,800. This saving of 10,000 lives in a single year implies about 70,000 cases less of protracted and disabling illness. On the other hand measles and whooping-cough have proved the least amenable of the infections to better sanitary conditions and show little change.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Nov. 10, 1911.

A Death From Salvarsan

On October 31, Dr. Gaucher, clinical professor of cutaneous and syphilitic diseases at the Faculté de médecine de Paris, reported before the Académie de médecine the case of a young man, 19 years old, who entered the St. Louis hospital in the service of Dr. de Beurmann, having an indurated chancre of the frenum, a month old, accompanied by a double indolent, inguinal adenopathy. This patient who was free from all visible lesions received an intravenous injection of 0.6 gm. of salvarsan. A quarter of an hour later he was seized with vertigo and a little later with vomiting and elevation of temperature. The next day his condition was normal. Two days later a new injection was made, which was followed by vertigo, headache and greenish vomiting. This vomiting persisted the next day and was accompanied by epigastric pain. The day after that in the afternoon the patient was seized with convulsions first tonic, then clonic epileptoid, with frothing at the mouth. At 4 o'clock he was in coma and died two hours afterward without having regained consciousness. At the necropsy all the organs except the kidneys were normal. The kidneys were increased in volume, hard and congested. Microscopic examination showed lesions of acute nephritis with epithelial degeneration and tubular rupture. In short, the patient had succumbed to a hyperacute arsenical intoxication and died of uremia caused by degeneration of the kidneys.

A New Sign Associated with Kernig's Sign: Extension of the Toes

In one of the last sessions of the Société médicale des hôpitaux, Dr. P.-E. Weil, physician of the hospitals, drew attention to a new sign which he had observed in twenty-four out of twenty-five meningeal cases in which there was hypertension of the cerebrospinal fluid. When one is obtaining Kernig's sign, at the moment that the leg begins to place itself in the line of extension of the thigh, one obtains, both in the reclining and the seated position, movements of the toes similar to those which are known as Babinski's sign. Like Kernig's sign, the sign of the associated extension of the toes may be more intense on one side, complete on the right, for instance, and incomplete on the left. When it is dissociated the extension of the large toe generally shows it alone. The fan-like spread of the toes is rare. This sign appears in adults as well as children, often very early and its semeiologic value is the same as that of the Kernig sign.

Specimens of Prehistoric Surgery Found in a Neolithic Tomb

Dr. Marcel Baudouin, secretary general of the Société préhistorique française, reported on November 6 before the Académie des Sciences, the results of an investigation of a tomb belonging to the polished-stone age recently discovered at Vendrest, Seine-et-Marne. It is the first time an investigation of this kind has been so scientifically carried out. Each bone was taken from the sand of the mortuary chamber by Dr. Baudouin, himself. He was thus able to ascertain that the corpses placed in the cavern had previously undergone a desiccation in the open air and incomplete removal of flesh from the bones. In the first period of the use of the mortuary chamber, the human remains had been first burned in the open air and only the ashes were taken to the tomb. Later only the dried bones were placed there without being burned. A circumstantial study of the bones showed that at present there were two kinds of lesions; (1) pathologic lesions (osteites, hyperostoses, healed fractures, etc.); (2) results of surgical operations, performed by the aid of flint implements. There were found, moreover, scattered throughout the tomb, the instruments utilized for these operations on human bones.

Election of Two Foreign Correspondents of the Paris Academy of Medicine

Dr. G. Marinesco, clinical professor of the diseases of the nervous system at the Faculté de médecine de Bucarest, and Dr. Finlay of Havana have just been elected foreign correspondents of the Académie de médecine de Paris.

Twelfth Meeting of French Internists

The Congrès français de médecine interne, which was held at Lyons, October 23 to 25, under the presidency of Dr. J. Teissier, professor of clinical medicine at the Faculté de médecine de Lyon, resulted in the formation of a new society called the Association des médecins de langue française, and with membership drawn from all French-speaking countries. The meeting this year brought together 600 physicians, of whom a large number were foreigners, Italian physicians being particularly numerous. Among the four questions considered two were of special practical interest.

DIABETIC COMA

Two papers were devoted to this subject. Dr. Marcel Labbé, *agrégé* professor at the Faculté de médecine de Paris, emphasizes especially the importance of the diagnosis of acidosis, since such diagnosis permits the institution of active treatment, thus often postponing for a long time the danger of coma. Acidosis is signalized by a certain number of chemical signs and clinical symptoms. The urine is constantly acid and this acidity offers especial resistance to the alkalization of the organism by the ingestion of alkalies. While in a normal subject the urine becomes alkalized after the ingestion of from 5 to 10 gm. of sodium bicarbonate, in a subject of acidosis the urine remains acid after the absorption of a sometimes very considerable quantity of alkali. The amount of beta-oxybutyric acid is particularly important in the diagnosis of acidosis. Unfortunately, it cannot be discovered by any reaction simple enough to be employed at the bed-side. Diacetic or acetylacetic acid is easily recognized by the Gerhardt reaction with ferric chlorid. In regard to modification of the blood, the most salient facts are the milkiness due to

leukemia and the diminution of the alkalinity. The clinical signs are often incomplete and easily pass unperceived. The general troubles, when present, consist of a marked physical depression, a sensation of intense fatigue, rapid loss of flesh, due to decreased appetite, digestive trouble and difficulty of alimentation. The aromatic odor of the breath is one of the signs which struck the old authors most forcibly. Dr. Labbé says that he has seen diabetic patients succumb in the coma of acidosis without having presented any acetone odor in the breath and more than once he has perceived this odor in subjects who presented no acetonuria and no other signs of acidosis. Among the other symptoms, the dyspnea of Kussmaul (slow, sighing, noisy inspirations, followed by forced and abrupt expirations), in spite of its inconstancy, possesses great diagnostic value. As for treatment, one should not confine oneself to a timid and, too often, inefficacious employment of alkalies. The most-used salt is sodium bicarbonate. To give the bicarbonate by mouth is often impracticable because of the insurmountable distaste of the patients or the deep coma or the gastro-intestinal trouble which the salt provokes. Accordingly, in serious cases in which it is necessary to act quickly, intravenous injection is the method of choice. Dr. Labbé habitually employs solutions of from 3 to 5 per cent. in distilled water. The injection of a warm solution may be made in any vein. When the signs of acidosis are pronounced and coma is imminent, there must be no hesitation in injecting 25 gm. of sodium bicarbonate at once. Doses given by mouth will naturally be much larger and in an adult may be as much as 100 or 200 gm.

Dr. L. Blum, privat-docent at the Faculté de médecine de Strasburg, in his report shows that diabetic coma may be produced in various forms, most frequently under the form of dyspneic coma, more rarely under the type of cardiac coma or in a more complex form in which the first phase is marked by dyspnea and the last period by coma accompanied by myocardiac asthenia. He mentions that the intravenous injection of sodium bicarbonate is likely to give rise to serious complications because of the reaction of the venous walls to the alkali and because of the toxicity of large quantities of sodium introduced into the organism (THE JOURNAL, Oct. 21, 1911, p. 1408). He gives preference to the administration of sodium bicarbonate by mouth whenever it is possible to do so. Besides the neutralization of acids, the treatment should be directed to the activation of the combustion of acids and their elimination. The substances which act most efficaciously are the carbohydrates which are strongly antiketogenetic. Oat and wheat porridges and milk are the foods best received. Against myocardic asthenia the digitalis preparations, caffein, camphor and intravenous injections of physiologic serum appear to be the means of producing the best effects.

Dr. Blumenthal of Berlin has no confidence in the treatment with alkalies. According to his personal observations, a milk régime is the one that should be employed in the first place. If it is instituted early the acetonuria diminishes and the patient recovers health, at least for a time. Dr. P. Lereboullet of Paris drew attention to an early symptom (epigastralgia) which, in two cases, permitted him to foresee the imminence of coma. Prof. J. Teissier of Lyons emphasized the fact that the presence of acetone in the urine does not necessarily imply an unfavorable prognosis. It is only when, along with the acetonuria, a massive or intense destruction of the albumins of the blood is perceived that the prognosis becomes extremely serious. Dr. Mariani of Genoa, having observed a marked diminution of glycosuria experimentally induced in animals by high frequency currents, asked if this method of treatment would not be efficacious in diabetic coma. According to Dr. Rubino of Naples the true treatment of diabetic coma and acidosis consists in the disintoxicating method, of which the two essential elements are lavage of the blood by physiologic serum and the fasting-cure. Dr. Blum, on the other hand, does not advise the fasting-cure in serious diabetes, the best antiketogenetics being carbohydrates, which are lacking in the diabetic.

EPIDEMIOLOGY AND PROPHYLAXIS OF CEREBROSPINAL MENINGITIS

This question aroused warm discussion between the partisans and adversaries of the theory which assigns the chief agency in the dissemination of meningitis to healthy germ-carriers. Dr. Rouget, who is professor at the Ecole d'application de médecine militaire du Val-de-Grâce and delegate from the minister of war, believes it possible to reduce the prophylaxis of cerebrospinal meningitis in the army to systematic research for and isolation of germ-carriers. This view aroused strong objections, especially on the part of Dr. Mongour, *agrégé* professor at the Faculté de médecine de Bordeaux, who is an adherent of the doctrine of autogenesis, which was defended at the Académie de médecine by the late Professor Kelsch. According to this doctrine, saprophytic germs may become pathogenic with a specific morbid function, and this may occur simultaneously in all regions subject to the same influences. The theory of autogenesis does not deny the possibility of contagion resulting from hypervirulence, but considers it an accident against which the isolation of the patient is a sufficient safeguard. Observations taken in the meteorologic station annexed to the laboratory of Dr. Rappin, professor at the Ecole de médecine de Nantes, have shown relations existing between secondary causes (humidity of the air, etc.) and the virulence of the germs. Dr. Carrieu, professor of clinical medicine at the Faculté de médecine de Montpellier, drew attention to the persistent localized lesions remaining after the otherwise complete cure of the meningitis. These lesions are, moreover, extremely variable. One of his patients remained deaf after cure; a second remained paralyzed in the legs and a third was affected with strabismus. It is probable that cases of this kind increase in proportion as cures become more numerous through the employment of antimeningococcus serum.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Nov. 9, 1911.

Personal

Professor Stöhr, director of the Anatomic Institute at Würzburg, died November 4, aged 62. He was a pupil of Kölliker and became prosector at Würzburg in 1876; in 1874 he was appointed professor extraordinary; in 1879 he accepted a call to Zurich as regular professor and returned to Würzburg in 1889. He published a large number of articles on anatomy and physiology, particularly of the digestive canal. His manual, the "Lehrbuch der Histologie und mikroskopischen Anatomie des Menschen," has appeared in numerous editions.

The Death-Rate in the German Empire During 1910

On the basis of the monthly reports that are sent to the Gesundheitsamt, the imperial health office, from 348 localities of the German empire which have at least 1,500 inhabitants (altogether about 23,000,000 inhabitants), estimates of the mortality for the German empire for the last year have just been published by the authorities.

The number of children born living during the year 1910 was 18,172; that is, 2.8 per cent. less than in the previous year, although the entire population, according to the estimate based on the results of the last census, has increased from 22,889,705 to 23,479,610; that is, by 2.6 per cent. The number of legitimate children born living decreased 17,204, or 3 per cent.; that of the illegitimate, 968, or 1.2 per cent. Also the number of stillbirths fell as compared with the previous year by 337, or 1.64 per cent., but reckoned according to 10,000 children born living, there were in the previous year 316 and in the year reported 320 stillbirths. With reference to the number of deaths, the figures for 1910 are distinctly more favorable than those for 1909, for in the entire number of places reported, in spite of the increase of the living population, 13,963 less people—3.8 per cent. less—died and the mortality figure reckoned per thousand living fell from 16.08 to 15.08. So far as facts are available regarding the age at death, the reduction of deaths in infancy is much more evident than among the older inhabitants; for the number of children under 1 year who died during the year fell from 105,622 to 96,622; that is, to 92 per cent. of the previous year, which was a reduction for the number reckoned for every 100 born living from 16.2 to 15.3. On the other hand, the number of persons who died after one year fell from 263,009 to 257,446, or only to 97.9 per cent. of the number for the previous year.

If the causes of death are taken into consideration, there appears to be an increase (1) in the number of deaths from diphtheria, including croup; (2) in puerperal fever, and (3) in violent death. However reckoned according to 100,000 living, the mortality even for these causes of death has not increased. The rate of all deaths by violence decreased from 65.3 to scarcely 63.8. It is especially worthy of notice that there has been a reduction of 11.7 per cent. in the mortality of children under 1 year from gastro-intestinal catarrh, including diarrhea, and of 16.8 per cent. among adults from the same cause, and further, that the deaths from diseases of the respiratory organs have diminished by 7.3 per cent.; pertussis by 5.2 per cent.; scarlet fever by 33.6 per cent.; typhoid fever by 9.25 per cent., and measles by 3.1 per cent.

The smallest reduction is shown in the number of deaths caused by tuberculosis, namely, a reduction of only 0.14 per cent. of the mortality of the previous year. The tuberculosis mortality for 1909 was, however, markedly smaller than that of the year 1908. Finally, it should be noted that from 1905 to 1910 the death-rate for the whole community has steadily decreased from 185.6 to 150.8 (per 10,000), and that the rate of infant mortality reckoned for 100 born living has quite steadily decreased during the same six-year interval, from 20.4 to 15.3. There died in the entire registration area the following number:

Year.	Total per 10,000 Inhabitants.	Infants Under 1 Year per 100 Born Living.
1905.....	185.6	20.4
1906.....	174.7	18.6
1907.....	170.5	17.1
1908.....	170.7	17.5
1909.....	160.8	16.2
1910.....	150.8	15.3

Nevertheless, during the last five years in the total registration area the birth-rate has declined from year to year at a not inconsiderable rate, for the number of children born living for every 10,000 inhabitants from 1906 to 1910 successively were 310.1, 302.6, 295.2, 284.0 and 269.2, and the excess of births over deaths for every 10,000 inhabitants, which in 1906 was 135.4, amounted in the last year to 118.4.

Marriages

HARRY T. BALLANTINE, M.D., to Miss Leona Dorsey Van Ness, both of Muskogee, Ala., at Kirkwood, Mo., October 25.

HOWARD LILIENTHAL, M.D., New York City, to Miss Edith Strede of Amherst, Va., in New York City, November 7.

NORMAN D. MORRISON, M.D., to Miss Pearl Lancaster, both of San Mateo, Cal., in San Francisco, November 2.

REMBERT H. THIGPEN, M.D., to Miss Adelaide Veeze, both of La Colorado, Mex., at Tucson, Ariz., November 9.

PHILIP DU BOIS BUNTING, M.D., to Miss Mabel Audrey Macdougall, both of Elizabeth, N. J., November 8.

WILLIAM W. DINSMORE, M.D., Montgomery, Ala., to Miss Berta Ragan of High Point, N. C., November 7.

JAMES MANNING BERNHARD, M.D., to Miss Marion Alma Senior, both of Montgomery, N. Y., October 23.

HENRY BARDWELL DONALDSON, M.D., Chicago Heights, Ill., to Miss Pearl Anderson of Chicago, November 16.

HAROLD EVERETT EGGERS, M.D., Shanghai, China, to Miss Eunice Cartwright of Chicago, November 15.

DANIEL EDWARD REMSBERG, M.D., Philadelphia, to Miss Helen Hickman, at Baltimore, November 16.

DANIEL KRIEDT, M.D., Minneapolis, Minn., to Miss Margaret Jane Morgan of Racine, Wis., November 16.

W. TEN EYCK ELMENDORF, M.D., to Miss Katarine Elmendorf, both of New York City, November 15.

GEORGE W. HAYES, M.D., to Miss Kathleen Howard, both of Franklin, Va., at Baltimore, November 16.

BENJAMIN FRANKLIN STAHL, M.D., to Miss Annette Thomas Castle, both of Philadelphia, November 24.

JOHN BRECKENRIDGE BAYNE, M.D., to Miss Olga Roosevelt, both of Washington, D. C., November 15.

WILLIAM C. MEACHAM, M.D., Oak Park, Ill., to Miss Irene Bate of Ottawa, Ont., November 29.

ARTHUR W. BOSLOUGH, M.D., to Miss Myrtle C. Johnson, both of Dwight, N. Dak., October 4.

FRANK COHEN, M.D., New York City, to Miss Constance Plaut of Cincinnati, O., October 26.

FRANK M. FULLER, M.D., to Miss Caroline Thistle Davis, both of Keokuk, Ia., November 15.

THERON EARLE FULLER, M.D., to Miss Emeline Grim, both of Texarkana, Ark., November 1.

EDWARD P. GODFREY, M.D., to Miss Alma McDonald, both of Phoenix, Ariz., November 14.

FREDERICK AULD HUDSON, M.D., to Miss Grace Goltry, both of Enid, Okla., October 25.

A. P. DEAVER, M.D., Wimer, Okla., to Miss Atta Campbell, at Athens, Ga., recently.

WILLIAM E. KNEWSTEP, M.D., to Miss Helen Scott, both of Hampton, Va., June 28.

Deaths

Surgeon John Francis Bransford, U. S. Navy (retired); died at his home in Stony Point, Va., November 4, aged 65. He was a cadet in the Virginia Military Institute during the Civil War and enlisted in the Confederate service. At the close of the war he entered the Medical College of Virginia, Richmond, from which he graduated in 1867. He entered the United States Navy in 1872 and had seven years and five months sea service and eight years and five months shore or other duty. After making some special archeologic researches in Central America for the Smithsonian Institute, Washington, he resigned from the service and resided at Stony Point, Va., maintaining a winter home in Augusta, Ga. At the outbreak of the Spanish-American War, Dr. Bransford reentered the service and was made surgeon on the converted yacht *Gloucester* and participated in the engagement with the torpedo destroyers, *Pluton* and *Furor* and commanded a gun on the *Gloucester* during the battle with Cervera's fleet and was one of the twenty-eight promoted for eminent and conspicuous conduct in battle, and was voted a medal of honor by Congress. He was appointed a surgeon, and placed on the retired list, February 5, 1901, and retired to his home near Bonair, where he afterward lived.

George Cornell Freeborn, M.D. College of Physicians and Surgeons, New York City, 1873; a member of the American Medical Association, and once president of the New York Pathological Society; for more than twenty years instructor in normal histology in his alma mater; pathologist to the Woman's Hospital in the state of New York, and later assistant pathologist to St. Luke's Hospital; surgeon to St. Michael's Hospital, Newark, N. J., for seven years; died at his home in New York City, October 30, aged 61. By his will Dr. Freeborn left books and memoranda and $100 to the alumni of the College of Physicians and Surgeons, and instruments valued at $100 to St. Luke's Hospital.

James M. Weaver, M.D. Western Reserve University, Cleveland, 1861; formerly a member of the American Medical Association; for six years a member of the medical staff of the National Military Home, Dayton, O.; for many years a member of the board of education and surgeon to the Big Four and Dayton and Northern Railways; Surgeon of the Ninety-Third Ohio Volunteer Infantry during the Civil War; consulting surgeon to St. Elizabeth's Hospital and a member of the local board of U. S. pension examiners; health officer of Dayton from 1886 to 1891; died at his home, November 6, from pneumonia, aged 73.

Thomas Milton Colley, M.D. University of Tennessee, Nashville, 1859; major surgeon in the Confederate service during the Civil War, and later a practitioner of Palestine, Tex.; for many years chief surgeon of the International and Great Northern Railway and in charge of its hospital in Palestine; died at his home, October 30, as the result of injuries received in runaway accidents, four and two years before, aged 75.

Albert Alonzo Ames, M.D. Rush Medical College, 1862; surgeon of the Seventh Minnesota Volunteer Infantry during the Civil War; formerly surgeon general of Minnesota, and for four terms mayor of Minneapolis; local surgeon for the Chicago, Milwaukee and St. Paul, Minneapolis and St. Louis, Great Northern and Northern Pacific systems; died at his home in Minneapolis, November 17, aged 69.

Clarence Edmund Wardell, M.D. University of Southern California, Los Angeles, 1907; of Seattle; a member of the Washington State Medical Association; while going over a grade crossing at Argo, November 6, in his automobile, was struck by an engine, receiving injuries, from which he died on the same evening, in the Providence Hospital, aged 28.

Antoine Ferdinand Vadeboncoeur, M.D. Syracuse (N. Y.) University, 1875; of Syracuse, N. Y.; a member of the Medical Society of the State of New York; a specialist on diseases of the nervous system; died in the Hospital of the Good Shepherd, Syracuse, November 9, from cerebral hemorrhage, aged 57.

William J. Moore, M.D. Rush Medical College, 1870; consulting physician to St. Elizabeth's Hospital, Danville, Ill.; a veteran of the Civil War and one of the oldest practitioners of Danville, was found dead in his office, November 6, from the effects of an overdose of chloroform, aged 65.

Ratliff P. Talley, M.D. Medical College of Virginia, Richmond, 1865; a Confederate veteran and during the last year of the war, assistant surgeon C. S. Army; for more than forty years a resident of Texas; died at his home in Temple, October 28, from cerebral hemorrhage, aged 75.

George Edward Gilpin, M.D. University of Maryland, Baltimore, 1882; local surgeon to the Baltimore and Ohio Railroad, and president of the Morgan County Board of Health; died at his home in Berkeley Springs, W. Va., November 4, aged 65.

George McLain, M.D. Trinity Medical College, Toronto, Ont., 1881; a specialist in diseases of the eye and ear of Excelsior, Minn.; died in St. Luke's Hospital, Minneapolis, October 18, three weeks after an operation for carcinoma of the stomach, aged 60.

Frank A. Clark (license, Kentucky, years of practice, 1910); one of the oldest practitioners of Newport; for several years district and jail physician; died at the home of his daughter in Newport, October 24, a week after a surgical operation, aged 62.

Thomas Marlett Sabin, M.D. University of Wooster, Cleveland, O., 1875; a member of the American Medical Association; died at his home in Warren, O., November 6, from septic endocarditis, resulting from prostatitis and cystitis, aged 61.

Stephen O. Culmer, M.D. Medical College of Evansville, Ind., 1880; of Odon, Ind.; while suffering from mental aberration, leaped from the window of a hotel in Odon, October 28, sustaining injuries from which he died the same day, aged 52.

Josephine Griffith Davis, M.D. Woman's Medical College of Philadelphia, Pa., 1877; a member of the American Medical Association; died at her home in East Orange, N. J., November 8, after a surgical operation, aged 72.

Robert Charles Marshall, M.D. Jefferson Medical College, 1863; surgeon of Pennsylvania Volunteers during the Civil War; died suddenly at his home in West Fairview, October 12, from cerebral hemorrhage, aged 70.

Horatio Seymour Brown, M.D. Eclectic Medical Institute, Cincinnati, 1889; of Niles, O.; while driving in his automobile over a grade crossing at Niles, October 29, was struck by a train and instantly killed, aged 44.

William B. Lewallen, M.D. Kentucky School of Medicine, Louisville, 1895; a member of the State Medical Association of Texas; died at his home in Bonham, November 1, from laryngeal tuberculosis, aged 42.

George Benford, M.D. Bellevue Hospital Medical College, 1875; for several years coroner's physician of Monroe County, N. Y., and city physician of Rochester; died at his home in that city, October 29, aged 59.

Louis M. Bassett, M.D. Louisville (Ky.) Medical College, 1877; a member of the State Medical Association of Texas; died at his home in Hearne, November 7, two weeks after a surgical operation, aged 55.

George Boswell Marable, M.D. Jefferson Medical College, 1846; a member of the Morehouse Parish (La.) Medical Society; of Bastrop; died in Oak Ridge, La., Oct. 28, 1910, from senile debility, aged 90.

George S. Albee, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1858; for forty-five years a practitioner of Hopkinton, Mass.; died at his home in Worcester, October 21, aged 80.

Arthur Johnstone, M.D. University of California, San Francisco, 1879; for many years a practitioner of Brooklyn, N. Y.; died in his apartments in New York City, October 15, from asthma, aged 63.

Michael Dienhart (license, Indiana, 1897); for forty-nine years a practitioner of Indiana and for several years postmaster at Number Ten; died at his home in Lafayette, November 10, aged 69.

John Lombard Dale, M.D. University of Pennsylvania, Philadelphia, 1872; a practitioner of Fall River and later of Springfield, Mass.; died at his home in the latter city, October 30, aged 62.

Harrison S. Chandler, M.D. Missouri Medical College, St. Louis, 1887; for eighteen years a practitioner of Woodward, Okla.; died in St. Francis Hospital, Wichita, Kan., October 26, aged 62.

Isaac William McGinnis, M.D. Medical College of Ohio, Cincinnati, 1869; Bellevue Hospital Medical College, 1871; died at his home in Newcastle, Ky., in February, from diabetes, aged 73.

Edward Dwight Hooker, M.D. Harvard Medical School, 1884; formerly a member of the American Medical Association; died at his home in Arlington, Mass., October 27, from septicemia, aged 52

Leo Breitzmann, M.D. Kentucky School of Medicine, Louisville, 1879; formerly of Menasha, Wis.; died in the Northern State Hospital for the Insane, Oshkosh, Wis., November 6.

Milton Riol Wilkinson, M.D. University of Nashville, Tenn., 1868; a surgeon in the Confederate service during the Civil War; died at his home in Westmoreland, Ala., October 1.

Charles B. Bates, M.D. University of California, San Francisco, 1868; for many years a practitioner of Santa Barbara; died at his home in Nahant, Mass., October 13, aged 69.

Henry J. Mullin, M.D. Keokuk Medical College, College of Physicians and Surgeons, 1905; of Dubuque, Ia., died at the home of his mother in that city, October 7, aged 35.

Emil Heinrich Riedel, M.D. New York University, New York City, 1881; died at his home in Maywood, N. J., October 19, from malignant disease of the bladder, aged 65.

Hugh Burch Logan, M.D. University of Missouri, Columbia, 1849; for forty years a practitioner of St. Louis; died at his home in Westville, Mo., October 8, aged 87.

Jeremiah J. Slattery, M.D. Bellevue Hospital Medical College, 1893; of Chicago; died in his office in that city, November 8, from organic heart disease, aged 40.

William Stevenson, M.D. Manitoba Medical College, Winnipeg, 1904; of Virden, Man.; died in the Virden Hospital, October 15, from typhoid fever, aged 48.

Charles B. Wurtz, M.D. Hahnemann Medical College, Philadelphia, 1880; died at his home in Frankford, Philadelphia, October 8, from heart disease, aged 52.

Henry E. Tuttle, M.D. Queen's University, Kingston, Ont., 1892; of Evans Mills, N. Y.; died suddenly in Waddington, N. Y., October 6, from angina pectoris.

George W. Holman, M.D. Eclectic Medical College of the City of New York, 1878; of Brooklyn; died in the Seney Hospital in that city, October 12, aged 85.

William H. Malin, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1858; died at his home in Chestnut Hill, Philadelphia, October 14.

Victor B. Ochiltree, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1883; died at his home in Keokuk, October 11, from cerebral hemorrhage, aged 51.

Thomas B. Englehart, M.D. Druidic University of Maine, Lewiston, 1886; a veteran of the Civil War; died at his home in Buffalo, October 25, aged 88.

Clinton James Morse, M.D. University of Edinburgh, Scotland, 1862; died at his home in Amherst, N. S., October 22, from heart disease, aged 71.

Robert W. Byrns, M.D. Missouri Medical College, St. Louis, 1893; of Frankford, Mo.; died in the Jewish Hospital, St. Louis, November 1, aged 45.

Israel G. Heilman, M.D. University of Pennsylvania, Philadelphia, 1873; died at his home in Philadelphia, October 26, from heart disease, aged 65.

Sydney George Brown, M.D. University of Bishop's College, Montreal, P. Q., 1901; died at his home in Montreal, October 19, from sarcoma, aged 35.

Le Roy Grimes, M.D. Marion-Sims-Beaumont Medical College, St. Louis, 1903; died at his home in Maplewood, Mo., October 19, aged 23.

Thomas Curtin Conser, M.D. Jefferson Medical College, 1888; died at his home in Sunbury, Pa., October 28, from cerebral hemorrhage, aged 48.

Frank P. Strayer, M.D. Columbus (O.) Medical College, 1879; died at his home in Bremen, October 30, from chronic nephritis, aged 56.

Eliab Myers, M.D. Medical College of Ohio, Cincinnati, 1873; died at his home in Springfield, O., October 8, from uremia, aged 63.

Alphonse Oulman, M.D. University of Vienna, 1862; died at his home in Chicago, October 10, from cerebral hemorrhage, aged 69.

Lycurgus A. Bard, M.D. Western Reserve University, Cleveland, O., 1860; died at his home in Cleveland, November 3, aged 65.

Clark Hopkins, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1901; died at his home in Norcross, October 25.

Thomas Ellmaker, M.D. Jefferson Medical College, 1846; died at his home in Lancaster, Pa., October 22, aged 88.

Henry Brandt, M.D. Washington University, St. Louis, 1862; died at his home in Cappeln, Mo., November 1, aged 75.

Wiley K. Faircloth (license, Louisiana); of Leesville; died in the Leesville Hotel, October 15, aged about 60.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

LIQUID SULPHUR—SULPHUME

Many medicinal fakes apparently lead a charmed life. They may be exposed, ridiculed and seemingly annihilated, but in due time they are bound to renew their existence. As a type of such fakes we may take any of the various aliases under which the venerable Vleminckx' solution, after falling into disuse, has been again and again revived and rechristened. Vleminckx' solution was introduced years ago as an external application for skin diseases, and in recent years has been exploited in slightly varying compounds and under various names: sulphume, sulphurine, golden lotion, yellow lotion, liquid sulphur and soluble sulphur. This solution is essentially an aqueous solution of calcium polysulphid and thiosulphate, such as is obtained when a mixture of lime and sulphur is boiled in water. A solution of this kind is described in the National Formulary under the title of "Liquor Calcis Sulphuratæ." According to the National Formulary, 5 ounces of slaked lime and 8 ounces of sulphur are made to yield 32 ounces of the solution, the material costing about 8 cents.

THIS REMEDY IS GUARANTEED TO CURE CANCER-GOITRE CONSUMPTION-CATARRH AND ALL OTHER DISEASES GUARANTEED UNDER THE FOOD AND DRUG ACT.
PATENT MEDICINE FAKES
THE PUBLIC
TESTIMONIAL
TESTIMONIALS
COPYR
American Medical Association Cartoon Series

We had hoped that the "liquid sulphur" fake was at last dead, but this hope has been dispelled by recent inquiries for "the formula of sulphume," and for information in regard to "soluble sulphur," etc.

As the number of inquiries indicated a rather general interest in Sulphume, the Association laboratory was requested to make an analysis of the preparation as exploited to-day. It reported as follows:

"A package of Sulphume recently purchased bears the following legend:

'Sulphume for the skin and blood. The contents of this bottle makes 10 strong sulphur baths. Dose—Internally: Four to six drops of Sulphume in one-half tumbler of water 3 times daily, one-half hour after meals. Price $1.00. Sulphume Company, Boston, U. S. A.'

"Accompanying the bottle is a booklet entitled 'Sulphur and Its Benefits to Health,' in which Sulphume is lauded for its value in treating all sorts of skin diseases, catarrh, corns, bunions, diabetes, diphtheria, female weakness, fevers, hemorrhoids, rheumatism, prostatitis, rickets, etc.

"The preparation as received in the laboratory is an orange-colored clear liquid, which on the addition of acid yields a precipitate of sulphur, accompanied by evolution of hydrogen sulphid. The liquid is alkaline toward litmus. Qualitative tests showed the presence of polysulphid, thiosulphate and calcium, but the absence of sulphate or sulphite.

"Quantitative determination showed the presence of about 1 gm. sulphur, per 100 c.c. of Sulphume, in the form of thiosulphate, and about 4 gm., per 100 c.c., in the form of polysulphid, making a total of about 5 gm. sulphur per 100 c.c. of the preparation. The calcium content was found to be equal to 2.55 gm. calcium oxid (CaO) per 100 c.c. of Sulphume."

Such a solution of calcium sulphid would doubtless be valuable for removing hair from hide as the first stage of its conversion to leather. While a few physicians still believe sulphids to be alteratives and general antiseptics and to possess some special value in the treatment of skin eruptions and recurring boils and even in acute and general sepsis, this foul-smelling remedy is now pretty generally ignored. While we are afraid its disgusting odor will continue to be a strong "talking point" for the stuff, let us hope that in due course of time the public will learn the fallacy of the old idea that anything that is nasty in taste or odor must be "powerfully good medicine."

TIZ

A Cure for "Smelly Feet"—and Other Things

A widely advertised toilet article, which is of a medicinal nature, and about which we have had numerous inquiries, is sold under the name of Tiz by Walter Luther Dodge & Co., Chicago. Tiz, we are told, is "a new scientific, medical toilet tablet." Some other claims made for the preparation are:

"It is different from anything ever before sold."

"Small shoes can be worn by using Tiz."

"Guaranteed to cure Corns, Callouses, Bunions, Frost Bites, Chilblains, Ingrowing Toe Nails, Tired, Aching, Swollen Nervous, Sweaty, Bad Smelling Feet."

"Draws out all poisonous exudations which bring on soreness of the feet and is the only remedy that does."

"Cleans out every pore and glorifies the feet—your feet."

From the amount of money that is spent on advertising this stuff, it would seem that the number of people who suffered from the minor pathologic states above described is large. Of course, testimonials are used in true "patent-medicine" style. We learn, for instance, that Mrs. Crockett of Jeffersonville (state not mentioned) had been unable to walk down stairs for five years "except by stepping down on each step with one foot at a time"—the intimation being, apparently, that most people walk down stairs with both feet at a time. In any case, we learn that "after the second treatment she walked down stairs one foot at a time." The lady's husband, who sends in this testimonial, closes by saying: "This is remarkable. Send five more boxes." Doubtless by the time the fifth box is used Mrs. Crockett will be spry enough to slide down the bannisters.

To determine the composition of this wonderful remedy an examination of Tiz was made in the chemical laboratory of the American Medical Association. Our chemists' report follows:

LABORATORY REPORT

"Tiz is sold in the form of tablets, of which a 25-cent package contains from twenty to twenty-five. Neither on the label of the package nor in the circular accompanying it is there any statement concerning the composition of the preparation. The tablets weigh about 1.14 gm. (17½ grains) each. Qualitative tests indicated the presence of aluminum, potassium, a sulphate, tannic acid, salicylic acid, powdered talcum and starch. Quantitative determinations of the aluminum, the sulphate and the salicylic acid were made. An approximate estimation of the sum of the starch and talcum was made by determining the portion insoluble both in water and in alcohol. From the loss on the ignition of this fraction the relative proportions of starch and talcum were estimated. From the results of the examination it is believed that a tablet having the following composition would have properties similar to Tiz:

Potassium aluminum sulphate (alum)	60 per cent.
Tannic acid	10 per cent.
Salicylic acid	5 per cent.
Talcum (Talc)	5 per cent.
Starch	20 per cent.

Here again, we find the time-worn scheme of taking advantage of facts well-known to the medical profession and dressing them in the fantastic garb of quackery. For years physicians have prescribed these astringent drugs for the alleviation of excessive local sweating. Yet the impression is given that such a use was never before conceived. According to the directions for using, the tablets are to be dissolved in water and the feet soaked in the solution and allowed to dry without wiping. The result of such treatment, of course, is to deposit on the feet in a finely powdered state the alum, tannic acid, salicylic acid and starch of which the tablets are composed. And yet the exploiters of Tiz emphasize the following claims:

"Tiz is not a powder. Powders and other foot remedies clog up the pores."

Like most nostrums, Tiz is exploited with a delightful disregard for the truth. When a man, or a group of men, goes into the "patent-medicine" business, it seems to be a fixed policy to cast truthfulness to the winds. Apparently, it is against the ethics of the business to use either moderation or veracity in making claims for the preparation exploited.

Correspondence

So-Called Brill's Disease—A Correction

To the Editor:—The editorial entitled "So-Called Brill's Disease: An Acute and Infectious Disease of Unknown Origin" (THE JOURNAL, Nov. 18, 1911, p. 1700), hardly interprets my conception of this disease, and it may tend to produce a wrong impression of what my own beliefs and opinions are. I do not consider the skin eruption as pathognomonic, because an erythema, similar to what this must be considered to be, occurs in other infectious diseases, viz., in measles, rötheln and in typhus fever. In fact, Peebles, as long ago as in 1835, pointed out the rubeloid character of the eruption of typhus fever. I have no right to assume that the syndrome represents a "mild abortive type of typhus fever" which the editorial in THE JOURNAL gives as my opinion, because I have seen and known of typhus fever only as it occurs epidemically and endemically. During such prevalence of typhus I have never seen, nor do I know what would constitute, an abortive typhus fever.

My opinion is briefly this: Though I was the one originally to propose that this disease in many respects resembles typhus clinically, there is epidemiologic, experimental and clinical evidence to negative their absolute identity and even, perhaps, to indicate respective individualities. I have in vain attempted to prove that it is typhus fever and shall regard it as such only when (1) I shall be shown typhus fever statistics, whether taken from epidemics, endemics or sporadic cases, which show a mortality of only 1 per cent., such as these cases show (Friedman's mild sporadic typhus cases showed a 6 per cent. mortality); (2) when inoculations into animals of blood or serum from patients with this disease will successfully produce the diseases in the inoculated animal; and (3) when evidence is brought forward to show that the disease commonly occurs in family groups, or, as a rule, in more than one patient living in the same residence or even in definite localities or districts—in other words, that it is communicable. Until such evidence is brought forward, I think I am justified in calling this disease an infectious disease of unknown origin.

N. E. BRILL, New York.

[COMMENT.—We derived the impression that Dr. Brill considers the skin eruption, in the syndrome described by him, as "characteristic, even pathognomonic, of the disease" from his statement[1] that "an eruption appears which is rather characteristic and differentiates the disease from most other infectious diseases."

With regard to the identity of the syndrome described by him, Brill states, on page 196 of the article above cited, that "from experimental data it would appear that the relation of this disease to typhus fever is farther than ever from being indubitably established," but in the concluding paragraphs of his article he asserts (pp. 217-218) that "inasmuch as clinically the disease is similar to typhus fever, though the experimental data would appear to negative their identity, I still reserve in my mind the belief in the possibility of the development of an attenuated virus of typhus fever. This attenuation in virulence could, I imagine, be induced by environment and improved sanitation to such a degree as to change to a great extent the clinical characters of typhus fever. . . . It may be that future investigators will prove this to be so, and thus be enabled to satisfy all doubts as to the true nature of the disease, . . . and securely place it finally in the at present undifferentiated group of typhus fever." From this last remark we inferred that Dr. Brill did regard the disease he describes as a modified typhus fever.

Our editorial was written with the purpose of calling attention to Dr. Brill's important observations, and we are glad to have, in his letter to us, a more precise statement as to his present attitude regarding this infectious process.—EDITOR.]

A Suggestion to Advertisers

Gentlemen:—You send us data, some of which are not only interesting and instructive, but often of great practical use. Much of this we might use for reference with advantage to ourselves and also to yourselves. Why do you offer it in such grotesque shapes, such multiform guises, so that no reference system can be devised for making it available?

Let me beg of you, do not consider us (the willing recipients of varied information) as so many children or half-civilized savages, who are—or should be—pleased by the toy-like bizarrerie of all sorts, sizes and forms of strange, colored circulars, cards, booklets, etc., exhibits of puzzling cleverness of the printer's and lithographer's arts. Send these expensive, often beautiful, but sometimes hideous devices, if you deem it best, but *give us also at least one uniform, plain card which can be filed in an index-filing system.* Most men keep a card index file for just such information, in which important facts can be arranged alphabetically.

Some fifteen years ago I urged agents of the great manufacturing houses to do this. I published an article in (if my memory serves) the *Druggists' Circular*, making a suggestion which several houses have adopted to my comfort, viz., a series of indexible cards, of the usual size—say, 5 by 3 inches—on one side of which appear (1) in small type: "File this in index catalogue;" (2) the name of the manufacturing house; (3) a list of the chief specialties. Also, other cards with the above inscriptions (1) and (2) and fuller descriptions of the special preparations. This can be printed on both front and back. We can then turn at once to a card under an appro-

1. Brill: Pathologic and Experimental Data Derived from a Further Study of an Acute Infectious Disease of Unknown Etiology, Am. Jour. Med. Sc., 1911, cxlii, 197.

priate heading, or to two cards cross-indexed, e. g.: under firm name and name of product.

For other things, I would suggest grouping of subjects, e. g.: under sanatoriums, waters, foods, instruments, books, etc., the special sanatorium, water, food, book, etc., described. If one card is too small, use a folding card, like a return postcard, and thus get four surfaces. One point more. Booklets, catalogues, etc., should be of uniform size, or there might be two standard sizes, a larger and a smaller, as 4 by 7, or 5 by 9 inches, as might be determined by mutual agreement.

You may be sure of one thing: Very few booklets, circulars, etc., will be preserved that do not exhibit some such uniform conformation, whereby they can be filed in some suitable receptacle. Of all the exasperating forms of advertisement, the envelope chockfull of ill-assorted sizes, colors, shapes and kinds of leaflets, is the surest to reach the waste-basket unread.

J. MADISON TAYLOR, Philadelphia.

Antityphoid Inoculation

To the Editor: We notice in THE JOURNAL (Oct. 28, 1911, p. 1466), a statement that the Seventy-First Infantry, N. G. N. Y. is the first volunteer organization to submit to inoculation against typhoid fever. Also, in the issue of November 11, p. 1626, it is stated that the War Department has issued a circular setting forth that the actual cash value of the antityphoid serum will be charged against the allotment of the state, for any serum furnished by the War Department.

We desire to state that the administration of antityphoid serum to the National Guard of Colorado antedates New York by nearly four months. Colorado did not wait for the War Department to furnish the serum but bought it outright and administered it free of all charge to the members of its national guard.

T. E. CARMODY,
Colonel, Surgeon General, N. G. C.
G. P. LINGENFELTER,
Major, Commanding Medical Dept., N. G. C.

The Ethics of Proprietary "Literature"

To the Editor:—Recently I received a booklet, "The Petroleum Idea," published by the Angier Chemical Company, and containing an article on "Caricature in Medicine," the illustrations and the reading-matter in which have in great part been stolen from my paper on "Caricature in Medicine," published last May in the *Chicago Medical Recorder*. No credit is given either to myself or to the *Chicago Medical Recorder*, although I notice that in their little booklet the reading matter is copyrighted! This is certainly a cheap way of obtaining advertising matter.

MORTIMER FRANK, M.D., Chicago.

[COMMENT.—While the matter in the Angier pamphlet is not taken verbatim from Dr. Frank's article, it is very evident that that is its source. An occasional twist to the sentences and a slight transposition of the words have been made—possibly with the idea of making the piracy a little less evident.—EDITOR.]

Escape of a Paranoiac—Assistance Wanted

To the Editor:—During the night of November 21-22, a dangerous paranoiac, one Ottilia Schneider, escaped from the State Asylum for the Criminal Insane at Matteawan, N. Y. She had been sent to the above institution in April, 1907, for a murderous assault on me, and has the delusion that she was operated on and that there is a plot to prevent her from obtaining justice against me and other physicians.

She is said to have effected her escape through the connivance of several attendants at the insane asylum, and it is presumed that she will seek medical advice in an attempt to have herself adjudged sane. The original indictment against her is still in force, and I offer a reward of $500 for her arrest, or for such information as shall lead to her arrest.

The description furnished by the asylum authorities is as follows: age, 46; height, 5 feet 7½ inches; weight, 152 pounds; eyes dark brown; hair black, slightly streaked with gray, combed with a peculiar curl in center of forehead; lower teeth slightly irregular; quite deaf; decided German accent.

As it is almost a certainty that she will seek the services of a physician, I take this method of appealing to the medical profession, and request any colleague under whose notice she may come to communicate with me at once.

I am also desirous of learning the addresses of the two nurses, Anna Pruss and Wally Breimeier, who have left Matteawan and are said to be in New York.

FREDERIC BIERHOFF, M.D., 10 W. Sixty-First Street, New York.

A Swallowed Thermometer

To the Editor:—Cases are on record in which people in hospitals for the insane have swallowed all kinds of junk and also cases in which children have accidentally swallowed small articles of hardware, but I find no record showing that anybody ever swallowed a clinical thermometer. The patient in question, a white man about 60, was in the Mattie Hersee Hospital suffering from an attack of malaria. While the nurse was taking his temperature, the patient says, he momentarily fell asleep and swallowed the thermometer. The nurse was afraid to say anything about it, but at the end of thirty-six hours, very much to her delight, it was passed from the bowels, registering 104 F.

S. H. HAIRSTON, B.Sc., M.D., Meridian, Miss.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

BLOOD TRANSFUSION IN HEMORRHAGIC AND NON-HEMORRHAGIC ANEMIAS

To the Editor:—Is blood transfusion ever used in the anemia secondary to chronic nephritis? M., Joplin, Mo.

ANSWER.—So far as we know, blood transfusion has not been used to overcome the anemia secondary to chronic nephritis. Its greatest field of usefulness seems to be in the anemias due to direct loss of blood through hemorrhage, and in some cases in which the hemorrhagic tendency is marked, as, for instance, in some of the hemorrhagic conditions of the new-born. Where much blood has been lost through hemorrhage, the transfusion makes good the loss and tides the patient over a critical period of severe anemia until his own blood-making powers are able to furnish sufficient new blood. In the hemorrhagic conditions there is probably supplied some element necessary for normal coagulation, but temporarily lacking. In anemia secondary to chronic nephritis temporary improvement might result from transfusion, through the improved quality of blood that would result from the addition of healthy blood, as well as from the fact that toxins that might be present in the diseased blood would now be in a more diluted solution. It is difficult, however, to see how permanent good would result.

PROSTATECTOMY

To the Editor:—Please state the method of operation for removal of the hypertrophied prostate through the perineum, and also by means of a suprapubic incision. By which operation would the patient have the best chances for a recovery? Are not the bladder sphincters injured in the operation through the prevesical space, i. e., the suprapubic operation? R. K., Chicago.

ANSWER.—In removing the prostate through the perineum the gland is approached through either a slightly curved transverse incision or a median incision which may be straight or in the shape of an inverted Y. In making the dissection some operators separate freely the rectum from the urethra and the prostate gland so as to expose to view the gland in its capsule. A longitudinal incision is then made through the capsule on either side of the mid-line, the object being to preserve intact, if possible, the ejaculatory ducts. Through the incision in the capsule the gland is then enucleated with the finger, keeping within this capsule. The enucleation is facilitated at times by the introduction of a special retractor into the bladder through an opening made in the posterior urethra.

Those who prefer the median incision usually separate the rectum from the urethra as far back as the beginning of the

prostate. The posterior urethra is then opened longitudinally and the finger introduced into the bladder. With long-curved scissors introduced under the guidance of the finger an incision is made on either side through the mucosa over the bulging prostate. Through this incision the prostate is then enucleated in one or more masses as the case may be.

In all perineal operations drainage is established by means of a large tube which should be removed usually at the end of twenty-four hours.

In the suprapubic operation an incision is made in the midline above the symphysis, the muscles separated and the prevesical space opened up without opening the peritoneal cavity. The bladder is then exposed and opened and its edges caught with forceps or temporarily stitched to the walls of the incision. An incision is then made through the mucosa of the neck of the bladder over the bulging prostate and the gland enucleated. This part of the operation is much facilitated by the fingers of an assistant or of the opposite hand of the operator introduced into the rectum. The bladder should be drained with some form of syphon apparatus so as to keep the patient as dry as possible.

So far as the mortality is concerned, the perineal route shows a slight difference in its favor. The drainage is better by the perineal route and the patient can usually be allowed to be up sooner, which is a factor of considerable importance in the recovery in these cases. The bladder sphincters ordinarily are not injured in either method.

THEOBROMIN SODIUM SALICYLATE

To the Editor:—Is sodio-theobromin salicylate (Diuretin) manufactured and sold under its true name, and if so, by whom? The only make I am able to find on the market is under the name Diuretin. O. M. VAUGHAN, Covert, Mich.

ANSWER.—Sodio-theobromin salicylate (more generally called theobromin sodium salicylate) is sold under its descriptive name by such firms as Mallinckrodt Chemical Works, St. Louis, Powers-Weightman-Rosengarten Co., Philadelphia, E. R. Squibb & Sons, New York. Your druggist should have no difficulty in supplying a product that complies with the standards laid down for it in New and Nonofficial Remedies.

ALYPIN

To the Editor:—What is Alypin and where may it be secured? All I know of it is that it is used by some surgeons as a local anesthetic. A. F. S., Illinois.

ANSWER.—We are daily receiving queries like the above, answers to which may be found in "New and Nonofficial Remedies." Alypin is a proprietary medicine, described on page 24 of the 1911 edition. This book should be on the table of every practicing physician. It costs only 25 cents in paper cover, or 50 cents in cloth. Copies of it were sent to 56,000 physicians last spring, as a supplement to THE JOURNAL, April 15, 1911.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Nov. 25, 1911.

Slier, Joseph F., captain, November 20, leave of absence extended one month.

Lynch, Charles, major, November 22, ordered to New York City on business pertaining to American National Red Cross.

Ingalls, R. E., dental surgeon, November 3, reported for temporary duty at Fort Yellowstone, Wyo.

Wing, Franklin F., dental surgeon, November 15, reported for temporary duty at Fort Mackenzie, Wyo.

Johnston, James F., lieut., November 15, relieved from temporary duty at Whipple Barracks, Ariz., and to return to presidio of San Francisco.

Crosby, William D., lieut.-col., November 21, relieved from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will return to his proper station. Granted seven days' leave of absence.

Maynard, E. B., M.R.C., November 22, relieved from duty at Fort Snelling, Minn., and ordered to the Philippines division for duty, Jan. 5, 1912.

Hewitt, John M., M.R.C., November 22, relieved from duty at U. S. military prison, Fort Leavenworth, Kan., and ordered to the Philippines division for duty, Jan. 5, 1912.

Clayton, George R., M.R.C., November 22, orders directing him to proceed to the Philippines division for duty on Jan. 5, 1912, revoked. Lieutenant Clayton will, on expiration of leave of absence, proceed to his home and stand relieved from further active duty in the medical reserve corps.

Hallett, Harley J., lieut., November 23, ordered to proceed to Fort Slocum, N. Y., for temporary duty.

Lyster, William J. L., major, November 23, relieved from treatment at Army and Navy General Hospital, Hot Springs, Ark., and will return to proper station.

Foley, Thomas M., M.R.C., November 23, leave of absence extended one month.

Medical Corps, U. S. Navy

Changes for the week ended Nov. 25, 1911.

Bagg, C. P., surgeon, transferred to the retired list from Nov. 16, 1911; detached from the *Colorado* and ordered home.

Reed, T. W., P. A. surgeon, detached from the *Marietta* and ordered to the *San Francisco*.

Cottle, G. F., asst.-surgeon, detached from the *Annapolis* and ordered home to await orders.

Henry, R. R., P. A. surgeon, commissioned passed assistant surgeon from Sept. 10, 1911.

Barker, Z. A., A. A. surgeon, appointed acting assistant surgeon from Nov. 14, 1911.

Rennie, W. H., P. A. surgeon, detached from the *Wisconsin* and ordered to the *Ohio*.

Stuart, A., surgeon, detached from the navy recruiting station, Hartford, Conn., and ordered to duty at the naval disciplinary barracks, and additional duty in command of the naval hospital, Port Royal, S. C.

Seaman, W., surgeon, detached from the naval disciplinary barracks, Port Royal, S. C., and ordered to the *Michigan*.

Hoyt, R. E., surgeon, detached from the navy recruiting station, San Francisco, and ordered to the *Franklin*.

Snyder, J. J., surgeon, detached from the *Michigan* and ordered home to await orders.

Hough, F. P. W., P. A. surgeon, detached from the *Franklin* and ordered to the navy recruiting station, San Francisco.

Munson, F. M., P. A. surgeon, detached from the *Independence* and ordered to the navy recruiting station, Hartford, Conn.

Baker, M. W., P. A. surgeon, detached from the naval hospital, New York, and ordered to the *Independence*.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 22, 1911.

Foster, M. H., P. A. surgeon, relieved from temporary duty at Stapleton, N. Y., and directed to report to the chief medical officer, Ellis Island, N. Y., for duty.

Ebersole, R. E., P. A. surgeon, granted two months' leave of absence from Dec. 2, 1911.

Ridlon, J. R., asst.-surgeon, directed to proceed to Texarkana, Tex., to investigate an epidemic of typhoid fever.

Heterick, R. H., asst.-surgeon, directed to proceed to the San Francisco quarantine station, Angel Island, Cal., and report to the medical officer in command for duty and assignment to quarters.

Bell, Charles, A. A. surgeon, granted thirty days' leave of absence from Nov. 22, 1911.

White, R. C., A. A. surgeon, granted thirty days' leave of absence from Nov. 10, 1911.

Board of medical officers convened to meet at Savannah, Ga., Nov. 20, 1911. Passed Assistant Surgeon C. H. Lavinder, chairman, vice Assistant Surgeon R. M. Grimm, relieved.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

Newspapers on a National Department of Health

Much discussion continues to fill the editorial columns of the daily newspapers regarding the proposed department of health. Despite criticism and fabrication, most of the newspapers are able to see clearly the immense significance of such an advance on the part of the federal government, as well as the sophistry of the arguments brought against the measure. Evidently the attempt to persuade the press that the reputable physicians of the country are trying to enslave the people is not meeting with much success. It has been repeatedly shown both in Congress and through the press that a national department of health would have nothing to do with the individual patient or the individual physician; that each state, and not Congress, must regulate the practice of medicine, and that as this department would concern itself with prevention, it would have nothing to do with treatment of patients or with drugs. These facts have been so clearly established that any person making statements to the contrary is either ignorant or guilty of intentional misinterpretation.

A few of the editorial expressions are given below, as typical of the attitude of the press. The *Farmer* said:

"One of the important bills that will come up for consideration in Congress this winter is that by Senator Owen providing for a national department of health, to be organized and operated on the same basis as the other government departments.

"The health of its people is a nation's greatest resource. If any subject merits governmental investigation and support, surely that subject is health. There is much that a national department of health could do in the way of studying some of the diseases which so far have baffled scientists. To study these diseases effectively requires the entire attention of trained men, with facilities and funds for unlimited experimentation. This is a work that surely comes within the province of the national government.

"The pure food and drug work has grown too large for the department of agriculture. It properly belongs under the supervision of a department of health. The attitude of the people on the Dr. Wiley case shows unmistakably that they favor the most stringent enforcement of the present pure food laws. It is likely that the present law may be amended to strengthen it in several important particulars. All this will increase the importance of Dr. Wiley's bureau and make the need for a separate department more imperative.

"The people need instruction in the fundamental rules of health and sanitation. A national department of health, through a series of popular bulletins, could save the people many millions of dollars a year by preventing sickness.

"The American Medical Association has come out in favor of the Owen bill. The people will be unanimously for it. The opposition will come from the patent medicine and tainted food interests. Such opposition ought to carry little weight when a matter of so great importance to the whole country is at stake."

The Milwaukee (Wis.) *Free Press* says:

"At a time when certain self-interested groups of citizens are opposing the establishment of a national health department because, as they claim, it would play into the hands of the accepted systems of prophylactics and therapeutics and thus curtail what is indefinitely designated as 'medical freedom,' the accepted systems have scored a distinct triumph in the mortality statistics for the past decade.

"During the years from 1890 to 1900, in which medical and sanitary science has made such epoch-making progress along acknowledged lines, the average span of life has received an astonishing extension.

"Whereas in the decade ending with the former year the average age of all persons dying in the United States was a small fraction over 31 years, the average age for the same class in the decade ending 1900 was 35 years.

"Truly, an astonishing extension, and traceable by means of indubitable statistics to that greater knowledge and application of the laws of hygiene and sanitation, to the enlarged understanding of germ-life and its relation to disease and, especially, to the increased discovery and use of antitoxic serums, which has come about in this period.

"Another remarkable evidence of the triumph of medical science is to be found in the gain of country mortality over city mortality in recent years.

"Up to twenty-five years ago the mortality of urban communities was far in excess of the mortality of the rural districts. To-day, the death-rate of cities is less than that of the country.

"What does this mean?

"It means that whereas a quarter of a century ago the water was purer, the sanitary conditions better and advanced medical aid little worse in the country than in the city, the city has rapidly outstripped the country in all these particulars through its readier response to the discoveries of medical and sanitary science."

The Cedar Rapids (Ia.) *Republican* says:

"In California they seem to have started a movement against the proposed national medical laws. They charge it up to the doctors who want to entrench themselves through legislation. It is set forth that they are in favor of medical as well as of other freedom. They dwell especially on the evil influences of compulsory medical examinations, especially of school children. They hold that such examinations have a tendency to create diseases, through fear. The element of suggestion is dwelt on strongly. The suggesting of diseases to children is often equivalent to subjecting them to those diseases. The cry is to be raised all over the country.

"One is inclined to believe that too much is made out of these ideas. The doctors who have favored the creation of a national department of health probably have no such ideas; they are, in all probability, as much interested in the welfare of their fellow men as are those who are crying against them. It is impossible to proceed on the supposition that they want to enslave their fellow men in this country, or propagate diseases through suggestions or through fears in order that they may be employed to cure them. . . .

"The present outcry against the doctors will not last. When one is in physical affliction he is apt to be glad to get the service of one who is skilled in their treatment."

UNIQUE TRUST

Under this head the Johnstown (Pa.) *Tribune* comments on the efforts of the opponents of advanced health legislation to brand the American Medical Association as a trust. This editorial comment is so pertinent that it is quoted in full:

"Everything that is is sooner or later termed a trust nowadays. There has even been talk about a doctors' trust. If there is a doctors' trust—and we hope there is if it would do the doctors any good to have one—it is the only trust that deliberately tries to keep down business without at the same time boosting prices. The doctors of to-day are without a doubt the most potent force we have in the great struggle to conquer disease.

"Lawyers have never placed themselves on record as favoring any movement calculated to curtail litigation, but there has not been a single instance during the last half century in which a campaign to make conditions more healthful has not had the backing of the doctors. The doctors could, if they were that kind of men, sit quietly back and let epidemics come and then they and death could make their harvests. The modern doctor is the greatest force we have in the matter of preventing disease. There may be a bit of bosh in their sacred 'medical ethics,' but just the same the doctors have held their standard high and have kept their light burning with a clear and steady flame."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

General Subject for the Month: Diseases of the Lungs

Fourth Month—First Weekly Meeting

ANATOMY: DEMONSTRATE FRESH SPECIMEN

TRACHEA AND BRONCHI.

TRACHEA: Length, diameter, boundaries and important relations. Blood and nerve supply.

BRONCHI: Right and left, location and surface markings. Difference between the two. Gross and microscopic anatomy. Blood and nerve supply. Lymphatics.

PLEURA: Pleura and its reflections.

MEDIASTINUM: Divisions and important contents of each.

LUNGS: Size, shape, weight, color, etc. Differences between right and left. Relation of structures entering root of lung. Histologic structure. Differentiate functional and nutritional blood-supply. Nerve supply. Lymphatics.

PHYSIOLOGY OF RESPIRATION

Theories of respiration. Errors of each. Normal position of thorax.

Inspiration and expiration, (a) active and (b) passive.

Mechanism of (a) inspiration, (b) expiration.

Types of breathing.

Vital capacity. Tidal air. Complemental air. Supplemental air. Residual air. Intrapulmonic and intrathoracic pressure. Effect on circulation.

Differences, physical and chemical, in inspired and expired air.

Changes in blood during passage through lung.

Respiratory center. Location. Automaticity.

How stimulated reflexly.

NORMAL PHYSICAL DIAGNOSIS[1]

Outline regions of chest, locating different organs by surface markings. Demonstrate methods of examination, inspection, palpation, percussion and auscultation on normal chest.

REFERENCE BOOKS FOR THE FOURTH MONTH

Text-Books on Practice.
Osler's Modern Medicine.
Nothnagel's Practice.
Babcock: Diseases of the Lungs.

1. Progressive Med., September, 1904, p. 44, and September, 1906, p. 55.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, December 5-8. Sec., Dr. Charles L. Tisdale, 929 Butler Building, San Francisco.

DELAWARE: State Society and Homeopathic, Dover and Wilmington, December 12. Secretary of the Medical Council, Dr. Henry W. Briggs, Wilmington.

FLORIDA: Eclectic, 1805 Florida Avenue, Tampa, December 4. Sec., Dr. Hiram J. Hampton.

KENTUCKY: The Armory, Louisville, December 19-21. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: Regular, 1211 Cathedral Street, Baltimore, December 12. Sec., Dr. J. McP. Scott, Hagerstown.

OHIO: Columbus, December 5-7. Sec., Dr. George H. Matson, State House.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Harrisburg, December 12-15. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, December 19-22. Sec., Dr. R. S. Martin, Stuart.

Arizona July and October Reports

Dr. Ancil Martin, secretary of the Arizona State Board, reports the written examinations held at Phoenix, July 5-6 and Oct. 2-3, 1911. The number of subjects examined in was 9; questions asked, 99; percentage required, 75. At the examination held July 5-6, 13 candidates were examined, of whom 9 passed and 4 failed:

College	PASSED	Year Grad.	Per Cent.
University of Alabama		(1911)	78.2
College of Physicians and Surgeons, Los Angeles		(1910)	82.6
Rush Medical College		(1904)	80.5
Northwestern University Medical School		(1911)	75
College of Physicians and Surgeons, Chicago		(1904)	81
Tulane University of Louisiana		(1907)	76.3
University and Bellevue Hospital Medical College		(1899)	80.4
Western Reserve University		(1902) 77; (1909)	83.6
	FAILED		
College of Physicians and Surgeons, Little Rock		(1911)	68
State University of Iowa, College of Medicine		(1910)	70.9
Louisville Medical College		(1899)	68.3
University Medical College, Kansas City		(1909)	74.1

At the examination held October 2-3, the total number of candidates examined was 7, all of whom passed:

College	PASSED	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock		(1911)	75
Rush Medical College		(1901) 83.3; (1908)	85.6
Hahnemann Medical College and Hospital, Chicago		(1892)	75
Baltimore Medical College		(1909)	75
University and Bellevue Hospital Medical College		(1905)	88.2
University of Tennessee		(1911)	79.4

Minnesota October Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at Minneapolis, Oct. 3, 1911. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 17, of whom 15 passed and 2 failed. Twenty-eight candidates were licensed through reciprocity.

College	PASSED	Year Grad.	Per Cent.
Rush Medical College		(1911)	84.7
Bennett Medical College		(1910)	81.2
Baltimore Medical College		(1910)	85.1
Harvard Medical School		(1911)	83.1
Hamline University		(1909)	75.1
University of Minnesota, College of Med. and Surg.		(1911)	80.1
New York Homeopathic Med. College and Hospital		(1895)	76.3
Western Reserve University		(1902)	85.8
University of Pennsylvania		(1899) 78.4; (1900)	89.3
Queen's University, Kingston, Ontario		(1908)	85.4
University of Toronto, Ontario		(1908) 85; (1910)	84.9, 89.2
Laval University, Quebec		(1910)	80.8
	FAILED		
Louisville and Hospital Medical College		(1908)	71.3
Hamline University		(1908)	67.5

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Northwestern University Medical School	(1909)	(1910, 3)	(1911, 5) Illinois.
Chicago College of Medicine and Surgery	(1910)		Illinois
Hahnemann Med. College and Hospital, Chicago	(1910)		Illinois
Keokuk Medical College, College of Physicians and Surgeons	(1903)	(1905)	Iowa.
University of Michigan, Department of Medicine and Surgery	(1903)	Illinois; (1909, 2) (1910) (1911)	Michigan.
University of Minnesota, Coll. of Med. and Surg.	(1906)		N. Dakota
Barnes Medical College	(1909)		Illinois
Creighton Medical College	(1907)	(1911)	Iowa
Medical College of Ohio	(1908)		Ohio
Marquette University, Milwaukee	(1910)	Nebraska (1911, 4)	Wisconsin

Book Notices

THE CHEMISTRY OF SYNTHETIC DRUGS. By Percy May, B.Sc. (London). Cloth. Price, $2.25 net. Pp. 229. New York: Longmans, Green & Co., 1911.

Some of us made our first attempt to study chemical analysis with the aid of a text-book of the "cook-book" style; that is, one which gave the student little or no information in regard to the chemical reactions which occurred in the course of an analysis or the object of the reagents added or the operations directed. Those of us who can recall our utter helplessness and confusion during these days, may be able to sympathize with the uncritical use of medicaments by some physicians and may be inclined to condone the use of ready-made complex mixtures of doubtful potentiality—for have we not, in the time gone by, blindly used complex solutions and followed incomprehensible directions and yet felt justified in expecting reliable results?

But, while in chemical analysis empiricism has been replaced by knowledge and each reagent is added for a perfectly specified purpose, in medicine the use of drugs is still almost entirely empirical. It may be a far cry to the formulation of a disease and its neutralization or precipitation by medicaments, in the same way that a certain constituent is identified in, or removed from, a complex solution. Nevertheless, it is generally acknowledged that the effect of a medicament is in the end a purely physical or chemical one. And nothing less will satisfy us than an understanding of the changes involved than which is comparable with that of our knowledge of familiar test-tube experiments.

So far the investigations along these lines have in the main been devoted to the study of the effect which chemical constitution has on pharmacologic action. This knowledge, although still most fragmentary, has proved fruitful in many directions. As a means of widening the physician's horizon such a study of the relation of chemical constitution of drugs to their effect is bound to be great. In our opinion no progressive physician can afford to be entirely ignorant of this line of investigation and a perusal of the brief outline contained in this book will be not only useful but most interesting as well.

To indicate concretely the subject matter of the book, the chapter headings are given as follows: I, "Theories of the Action of Synthetic Drugs"; II, "The Effect of Various Elements and Radicles"; III, "The Chemical Changes of Drugs in the Organism"; IV, "Narcotics and General Anesthetics"; V, "Antipyretics and Analgesics"; VI, "Alkaloids"; VII, "Atropin and the Tropeins—Cocain and the Local Anesthetics"; VIII, "Morphin Group of Alkaloids and Isoquinolin Group of Alkaloids"; IX, "Adrenalin and Other Derivatives of Ethylamin"; X, "Derivatives of Phenol (Antiseptics)"; XI, "Other Organic Antiseptics, Excluding Iodin Compounds"; XII, "Iodoform and Its Substitutes—Other Iodin and Bromin Compounds"; XIII, "Inorganic Antiseptics and Metallic Compounds"; XIV, "Arsenic and Antimony Compounds"; XV, "Purin Derivatives (Diuretics) and Uric-Acid Solvents"; XVI, "Purgatives and Other Substances Acting on the Gastro-Intestinal Tract"; XVII, "Various Other Compounds of Interest."

LIPPINCOTT'S NEW MEDICAL DICTIONARY. A Vocabulary of the Terms Used in Medicine, Dentistry, Veterinary Medicine, and the Allied Sciences with Their Pronunciation, Etymology and Significance, Including Much Collateral Information of a Descriptive and Encyclopedic Character. By Henry W. Cattell, A.M. (Laf.), M.D. (U. of P.), Editor of International Clinics. Second Edition. Flexible Leather. Price, $5 net. Pp. 1108, with illustrations. Philadelphia: J. B. Lippincott Co., 1911.

A number of changes, additions and improvements have been made in this work, 500 new words and a number of new illustrations having been added. Cross-references have been inserted in this edition for two or more forms of the same word, as for instance, from "gastrenteralgia" to "gastro-enteralgia." The book, however, still contains, in addition to the excellent features to which attention was called in the more extended review of the first edition a year ago, some of the shortcomings which were then evident. Portraits of physicians are still included and also many poor

or indifferent illustrations of plants, substances such as wool, etc., arbitrarily selected, the space occupied by which might have been saved without detracting from the value of the work. As we remarked in the earlier review, we believe that giving "œsophagus," "anæsthesia," etc., as the preferable spellings, is not in line with progress.

ONE HUNDRED SURGICAL PROBLEMS. The Experiences of Daily Practice Dissected and Explained. By James G. Mumford, M.D., Visiting Surgeon to the Massachusetts General Hospital. Cloth. Price, $3. Pp. 354. Boston: W. M. Leonard, 1911.

The 100 problems presented in this volume have their basis in 100 patients seen, examined, studied and operated on by the author. The history of each case is carefully detailed, and the significance of each symptom or group of symptoms discussed in a foot note as it is brought out. A diagnosis is made based on the clinical history and the results of the physical examination. Then follows a description of the operation, together with the operative findings and finally the ultimate outcome of the case.

It is this checking up of the pre-operative conclusions as to the conditions present with the actual operative findings that gives the great value to this work. It is an easy matter to make a diagnosis, but an entirely different matter to make one that will tally with the operative findings.

If we had more books like this—personal analyses of the work of competent, conscientious surgeons—we would be much better off than with the surfeit of text-books now present.

The work is unique and of decided value.

A MANUAL OF PRACTICAL HYGIENE FOR STUDENTS, PHYSICIANS AND HEALTH OFFICERS. By Charles Harrington, M.D., Late Professor of Hygiene in the Medical School of Harvard University. Fourth Edition, Revised and Enlarged, by Mark Wyman Richardson, M.D., Secretary to the State Board of Health of Massachusetts. Cloth. Price, $4.50 net. Pp. 850, with 124 illustrations. Philadelphia: Lea & Febiger, 1911.

In consequence of the death of Dr. Harrington in 1908, the present edition of his work has been revised by Dr. M. W. Richardson who has brought the different sections of the work well up to date. The plan of the work is unchanged and the alterations in the text are in most places inconspicuous, while in others some paragraphs have been added. The new edition is well suited to maintain the enviable reputation achieved by previous editions of the work. One disadvantage due to the arrangement of the work deserves notice. The reader who seeks a definite statement of the measures applicable for the control of an infectious disease, like typhoid, finds only scattered references throughout the work. The value of the work to many practitioners would be enhanced by a brief summary of the measures best suited to prevent the spread of infection, given under the heading of the individual disease.

REFRACTION AND VISUAL ACUITY. By Kenneth Scott, M.D., C.M., F.R.C.S., Consulting Ophthalmic Surgeon to St. Mary's Hospital for Women and Children, London. Cloth. Price, $1.75. Pp. 191, with 16 illustrations. New York: Rebman Company, 1911.

This volume adds one more to the manuals intended to teach the general practitioner how to fit glasses, and how otherwise to deal with the commoner refractive errors. The author also has something to say about the use of the ophthalmoscope and the detection of color blindness. A useful chapter is that devoted to the medical inspection of the eyes and eyesight of school children, a subject that so far as concerns America has lately been too much neglected in both lay and medical literature.

A goodly portion of the work is devoted to the visual acuity required by the employees of railroad and steamship companies, especially in Great Britain and her colonies. The matter has recently attracted much attention here and Dr. Scott's abstracts will be found very useful for comparing the requirements exacted by the British authorities with those imposed by our own.

THE FOURTH PHYSICIAN. A Christmas Story. By Montgomery Pickett. Illustrated by Gordon Stevenson. Cloth. Price, $1 net. Pp. 144, with illustrations. Chicago: A. C. McClurg & Co., 1911.

This is a well-written Christmas love story about physicians, involving the conflicting calls of self-aggrandizement on the one hand, and devotion to the call of suffering on the other.

Medicolegal

Medicine Sent by Mail Covered by Pure Food and Drugs Act

(United States vs. Tucker (N. H.), 188 Fed. R. 741)

The United States District Court, in Ohio, sustains a conviction of violating the pure food and drugs act of June 30, 1906, by the sending by mail of a bottle of a nostrum ("Tucker's Asthma Specific") containing cocain, the bottle bearing no label or brand indicating the presence of that drug in the preparation. The court says that the defendant, in answer to an inquiry from a party called Henson, mailed to him an examination or symptom blank and what was manifestly a previously prepared stock letter, stating that under a separate cover were forwarded to him circulars fully explaining his system of relief and cure for asthma, hay fever and nasal catarrh, and naming the cost of treatment. Henson was requested to fill out the blank and return it with full payment in advance, on receipt of which a treatment would be sent by express without delay. Henson filled out the symptom blank and returned it with a postal order for the sum named. Thereupon the defendant deposited in the mail at Mt. Gilead, Ohio, a bottle containing 2 ounces of the medicine, addressed to Henson, and also shipped to him by express an atomizer, both of which were received by Henson at Washington, D. C. Later a second bottle of medicine was sent in the same manner as the first. Henson made no suggestion and gave no direction as to the mode of transporting any of the medicine.

Was the transaction in which the defendant engaged interstate commerce, so as to come within the provisions of the federal law? His contention was that the sale and delivery were completed in Ohio, when the medicine was deposited in the mail, and governed by the Ohio law of sales, and that the fact that the sale was made with the intent that the medicine should be transported from Ohio to the District of Columbia after the sale and delivery were fully completed did not impart an interstate character to the transaction, because the agent by which the transportation was effected, the United States mail, was the agent of the purchaser and not of himself. But the court holds otherwise, overruling a motion for a new trial.

The court says that the second section of the pure food and drugs act is limited in its application to interstate and foreign commerce. The prohibition therein contained runs against the introduction of misbranded drugs into any state, or territory, or the District of Columbia, from any other part of the United States, or from any foreign country. The defendant solicited and obtained Henson's order for the medicine. He knew that the transaction, if consummated, would necessitate interstate transportation. A sale, the parties to which are from different states, is a transaction of interstate commerce, wherever the contract of sale may be made, when the goods are to be transported from one state to another, whether the sale is made before or after shipment. The indispensable element and test of interstate commerce is importation into one state from another. The transaction in which the defendant engaged was interstate commerce.

Construction of Portion of Medical Practice Act on Sales of Drugs by Itinerant Venders

(Williams vs. State (Ark.), 137 S. W. R., 927.)

The Supreme Court of Arkansas reverses a conviction of an itinerant vender of prepared drugs of practicing medicine without a license on the ground that the indictment did not state facts sufficient to constitute an offense, because it failed to state that the accused did "by writing, print or other methods, profess to cure or treat diseases or deformity." The indictment was preferred under that section of the statute enacted in 1903 to regulate the practice of medicine and surgery which provides that: "Any itinerant vender of any drug, nostrum, ointment or application of any kind, intended for the treatment of disease or injury, or who may, by writing, print or other methods, profess to cure or treat diseases or deformity by any drug, nostrum, manipulation or other expedient, in

this state, shall be deemed to be in violation of this law and punished as provided. This does not apply to persons who obtain certificates as herein provided."

The court says that this section is somewhat ambiguous, and, in order to ascertain its exact meaning resort must be had to the whole statute, which in its entirety and according to the language of its title was designated to regulate the practice of medicine and surgery, and to require practitioners to first stand examination and obtain certificates authorizing them to practice. This section and the succeeding one undertake to define what shall constitute the practice of medicine or surgery.

The language of the whole statute, when considered in its entirety, does not warrant the conclusion that the lawmakers intended to require an itinerant vender who merely sells medicine to stand examination and obtain a certificate as a physician. On the contrary, it seems clear to the court that it was intended as one of the definitions of the practice of medicine to declare that an itinerant vender of medicine who professes to cure or treat diseases or deformity by any drug, nostrum, manipulation or other expedient shall be deemed to be within the terms of the statute, and shall be required to obtain a certificate. Any other construction would not only do violence to the scheme outlined in the statute as a whole, but it would render the section meaningless, and would give no force at all to the words "who may, by writing, print or other methods, profess to cure or treat diseases or deformity by any drug," etc., for if it was intended to declare an itinerant vender who merely sells medicine without a certificate to be an offender, then the words above quoted are useless. The construction adopted makes it necessary to disregard the disjunctive "or," or to substitute the conjunctive "and" therefor, before "who may," but that may be done when essential in order to carry out the manifest intention of the lawmakers.

Affidavits of Non-Resident Physicians Sufficient for Inquest of Lunacy

(Hundley vs. Sumrall (Ky.), 137 S. W. R. 842.)

The Court of Appeals of Kentucky holds that the physicians need not be residents of that state to make the affidavits required by the statute which provides that the personal presence of the person charged with being of unsound mind, or an imbecile, or incompetent to manage his estate, may be dispensed with when it shall appear, by the oath or affidavit of two regular practicing physicians, that they have personally examined such person, and that they verily believe him to be an idiot or lunatic, or incompetent to manage his estate, as the case may be, and that his condition is such that it would be unsafe to bring him into court.

In the case before the court a resident of Kentucky had his son, who became insane, removed to Baltimore, Md., and placed in a sanitarium there, where he remained, a lunatic, violent and uncontrollable. After the father died it became necessary that a committee should be appointed to receive the son's share of the estate, and look after his interest, and an application was made to the county court for an inquest of lunacy. The affidavits of three of the physicians in charge of the sanitarium in Baltimore were filed showing that they were regular practicing physicians; that they had personally examined said son; that he was a lunatic; and that his condition was such that it would be unsafe to bring him into court. That, it is held, was sufficient.

The court says that there is nothing in the statute requiring that the physicians must be residents of Kentucky. The court cannot add to the terms of the statute. The purpose of the provision is to dispense with the presence of the lunatic in court when it would be unsafe to bring him there; and when he is out of the state there is no reason why the physicians there having charge of him may not make the affidavits referred to. This is within both the letter and the spirit of the statute, the purpose being to allow the inquest to be held when it would be unsafe to bring the lunatic into court, and this is shown by the affidavits of two regular practicing physicians

This lunatic had not ceased to be a resident of Kentucky; his domicile was still in that state. He was simply in Maryland for treatment. His estate was in Kentucky; the courts of Kentucky had jurisdiction to hold an inquest, and to appoint a committee to take charge of his estate. He had notice of the proceeding in the only way in which notice was practicable. True, it was constructive notice, but it would have been contrary to the plain intent of the statute to have taken this lunatic out of the sanitarium and brought him to Kentucky, thus endangering his safety and the safety of others.

Privilege Not Waived

(Slater vs. Sorge (Mich.), 131 N. W. R. 565)

The Supreme Court of Michigan holds that, in this action to recover damages for being bitten by the defendant's dog, the plaintiff having employed one physician immediately, and another later, to treat his wounds, his calling the second physician as a witness was not a waiver of privilege as to the first physician. Nor does the court think that the fact that the plaintiff himself had testified as to the treatment by the first physician of the identical injury for which suit was brought, should be held to be such a waiver of the privilege conferred by the statute as would permit that physician to testify.

Society Proceedings

COMING MEETINGS

American Association of Anatomists, Princeton, N. J., Dec. 27-29.
American Physiological Society, Baltimore, Dec. 27-30.
American Public Health Association, Havana, Cuba, Dec. 4-9.
Southern Surg and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

SOUTHERN MEDICAL ASSOCIATION

Fifth Annual Meeting, held at Hattiesburg, Miss., Nov. 14-16, 1911

The President, DR. ISADORE DYER, New Orleans, in the Chair.

Officers Elected

The following officers were elected: President, Dr. James M. Jackson, Jr., Miami, Fla.; vice-presidents, Drs. Frank A. Jones, Memphis, Tenn., and Daniel J. Williams, Ellisville, Miss.; and secretary-treasurer, Dr. Seale Harris, Mobile, Ala.

Jacksonville, Fla., was selected as the next place of meeting.

The Stokes-Adams Syndrome

DR. J. G. GAITHER, Oxford, Miss.: There seem to be two distinct classes of cases, first, in patients past middle life in whom arteriosclerosis has become pronounced in its effect on the brain, heart and kidney, and, second, a younger class of patients, under 50, usually men, in whom a variety of causes are found. Pathologists have failed to find any lesion sufficient to justify the assumption of a causal relation. The prognosis is serious and uncertain; the treatment is purely symptomatic.

DISCUSSION

DR. J. B. ELLIOTT, JR., New Orleans: I have seen only one case of Stokes-Adams disease, and this was associated with arteriosclerosis. The patient died in the second attack. He was 70 years of age. There was an atheromatous cicatrix in the bundle of His.

DR. J. B. MCELROY, Memphis: We must distinguish clinically between two groups of these cases, one the cardiac group, and the other the neurogenous group. Much work has been done with reference to the disturbance of the conductivity of the bundle of His, but undoubtedly there are many of these cases which present the symptoms of the Stokes-Adams syndrome in which this bundle is not involved. Adami reports a case, and I have autopsied one case myself in which the bundle of His was involved and almost completely destroyed by a gumma in which there were no symptoms or evidences of the disease during life.

DR. FRANK A. JONES, Memphis: I have seen five cases of heart-block, three in men, and two in women. In nearly all of these cases there was pronounced arteriosclerosis, with high blood-pressure. I have seen one case with a pulse as low as 8 for nearly a week before the patient died in a kind of coma instead of a convulsive seizure.

Causal Factors in Malarial Recurrences

DR. GRAHAM E. HENSON, Crescent City, Fla.: Parthenogenesis cannot be considered a factor in recurrences of malaria because the existence of such a phenomenon is a matter of great doubt. Many cases have at no time during the infection shown the sexual forms, but have frequently relapsed. Ross cited four cases in which inoculation experiments containing only sexual forms failed in each instance to produce clinical symptoms of malaria or to reveal the presence of any plasmodia, while in fifty-one cases cited by the same author inoculation experiments containing the asexual parasites, in every instance produced clinical symptoms of the infection, and parasites of the type inoculated were demonstrated in all of the cases experimented with since the discovery of the plasmodia.

DISCUSSION

DR. R. H. VON EZDORF, Mobile, Ala.: According to the investigations made in 1898 and 1899, parthenogenesis may have something to do with the recurrent cases of malaria. I have observed in blood-examinations what appeared to have been the conjugate forms. Again, I have noted cases in which only the gametes have been present, and have not been able to find the gametes changed into the form which would revert to the schizodont cycle. In making examinations of the blood of the estivo-autumnal cases, in which the gametocytes were present, I have found that under the specific treatment of quinin the microgametes would disappear in a short time and the macrogametocytes would predominate.

DR. LOUIS LEROY, Memphis: I have not had an opportunity to study parthenogenesis or asexual reproduction, but the resting form mentioned by the essayist has occurred to me a number of times. We have had quite a number of patients coming from latitudes that are considered more malarious than our section of the country, who had in many instances been free from any malarial attacks for periods varying from six months to several years, and invariably after a week in that district outbreaks of malaria occurred. I examined a dozen or more specimens of blood but failed in many instances to find any parasites, and yet inside of ten days or so apparently new attacks of malaria would be developed. In most of these patients enlargement of the spleen would develop subsequently. Whether or not the spleen or bone-marrow was the site of the resting parasites, which under these changed conditions brought that about, I am not able to say, but that was my working hypothesis. Paroxysms occurred in one patient following exposure of the enlarged spleen to the Roentgen-ray, in whom again I was unable to find parasites in the blood. Again, under similar conditions I have seen attacks of malarial paroxysms following the administration of large doses of ergot and hydrastin, given with the idea of attempting to reduce the size of the spleen.

DR. J. B. MCELROY, Memphis: My impressions, as gained from a study of the blood itself and from the literature, are directly in opposition to those of the essayist. I can see no evidence from a study of the blood of these conjugating forms developing in the body. On the other hand, according to the work of Schaudinn, parthenogenesis is a well-established principle. I agree with Dr. von Ezdorf that these macrogametocytes continue in the blood after the continued and heroic administration of quinin, and in the diagnosis of malaria we should not only include the presence of malarial parasites, but the varieties of them, and we should determine from an examination of the blood whether or not we are dealing with a relapse. This can easily be determined both by the presence of the macrogametocytes and by the tertiary and the estivo-autumnal types.

Vaccine Therapy in Typhoid

DR. J. B. ELLIOTT, JR., New Orleans: In a series of over 200 vaccinations among the senior class of Tulane University during the past two years, we have had only one case and the patient was proved to have had the infection previous to vaccination. Cullinan inoculated 500 asylum inmates, and of these only 1.3 per cent. had it, while of the non-vaccinated, 14.9 per cent. went down with typhoid fever.

I have treated only three patients. I have become enthused over this method of treatment and shall continue to administer the vaccines in all cases of typhoid, if seen within the first eight or ten days.

DISCUSSION

DR. A. W. FREEMAN, Richmond, Va.: It is hardly fair to say that typhoid vaccination at present is without danger. In a recent issue of the *Naval Medical Bulletin*, the case of a young marine is reported. He was inoculated with the same vaccine that was used in the routine inoculations of the marines of that corps, and who within two or three days developed a most virulent case of typhoid and died. At the autopsy typhoid bacilli were found in the circulating blood and in the various tissues of the body. Those who studied this case and did the bacteriologic work, as well as the clinician, agreed that this young man was in the incubative stage of typhoid, and a dose of vaccine was sufficient to overwhelm him and result fatally, when he might have had a case with demonstrable symptoms of the disease. There is no doubt that typhoid vaccination does confer relative immunity against typhoid, but the degree of that immunity has been variously estimated by various experimenters and observers.

DR. LOUIS LEROY, Memphis: I believe that at present we are suffering very largely from a pernicious activity of certain biologic features in the line of pushing and recommending indiscriminately biologic products of this nature. It is claimed that negative phases are not so frequent in typhoid as in some other forms of vaccine administration. Dr. Elliott was careful to say that he limits the use of the vaccine to the first ten days. Even at that, it would require some discrimination, which I am willing to concede he has, in the administration of this vaccine in all cases. We have all seen typhoid patients who were almost overwhelmed from the beginning, and I would question the administration of large doses of vaccine to a patient in that condition. Again, late in the disease it does not seem to be of much use. The main thing I wish to protest against is the indiscriminate use of typhoid vaccines and untruthful advertising of these remedies by therapeutic houses, and by detail men who do not know the first principles about it, urging its indiscriminate use in all cases of typhoid.

DR. CHARLES DEBARRON, Gulfport, Miss.: At the time of the Spanish-American war, shortly after my return from Chickamauga Park, there was quite an epidemic of typhoid below this region. Twenty people were exposed to the disease. Every one of them was given typhoid vaccination and not one contracted the disease.

DR. J. B. MCELROY, Memphis: I think Dr. Elliott should hedge in these good results from typhoid vaccination by a warning or by putting a large question mark against the proposition as to whether or not these typhoid vaccines can be used promiscuously for the prevention of typhoid. Theoretically, we would expect that while these individuals are acquiring immunity from one or two doses which have been administered, there is a negative phase or sensitization of the individual during which he is more liable to contract typhoid than at other times.

DR. R. H. VON EZDORF, Mobile: One patient to whom the vaccine was given developed a temperature of 104 F. which lasted two days. On the second injection, the same reaction occurred which did not last quite as long. Statistics show that we can expect these reactions to take place in about 10 per cent. of the cases.

DR. HIRAM BYRD, Jacksonville, Fla.: About a year and a half ago we began the administration of typhoid vaccines. We vaccinated 125 people. In two instances the reaction was severe. In a woman the reaction lasted for three days. Aside from these reactions, the results have been very favorable. The youngest child vaccinated was 16 months old. There was a reaction in that instance as in two other children. We have vaccinated several children under 5 years of age in whom the reaction has been very slight.

DR. J. B. GUTHRIE, New Orleans: I feel we are perfectly justified in resorting to vaccination as a preventive of typhoid fever when we consider the present condition of sanitation in some of our cities and country towns, particularly where streams are so liable to contamination. Any person whose occupation brings him in contact with typhoid patients, or who is forced to live in a neighborhood where typhoid infection is rife, should be vaccinated against typhoid.

DR. WILLIAM KRAUSS, Memphis: We may take it for granted that the German government would not countenance any system of experimentation with its troops which would prove detrimental to the personnel of the army, and considering that soldiers are priceless possessions, no government would permit vaccination against typhoid if it was so dangerous as some would have us believe it is.

(To be continued)

UTAH STATE MEDICAL ASSOCIATION

Annual Meeting, held at Salt Lake City, Oct. 4-5, 1911

(Concluded from page 1789)

Use of the Cystoscope in Diagnosis

DR. O. S. FOWLER, Denver: The revelations of the cystoscope could not possibly be obtained in any other way; without its aid many unpardonable mistakes in diagnosis are made. In diagnosing abdominal conditions, the stomach, gall-bladder and ducts, the appendix, ovary occasionally, and the kidney must be thought of. The most common error is the differentiation between chronic appendicitis and recurrent attacks of renal colic or obstruction of the ureter from a kink giving intermittent hydronephrosis. The pain of prolapsed kidney may occur in the exact region of the appendix. Diseases of the genito-urinary tract are evidenced chiefly by pain, suppuration, hemorrhage and tumor, each of which symptoms must be weighed with careful judgment. The cystoscope gives valuable information in congenital deformities, and the origin of pus and blood in the urine. Injections of collargol into the kidney pelvis enable one to study its contour relations, etc. The cystoscope discloses the presence, location and operability of neoplasms of the bladder; if hemorrhage occurs from above the bladder, one can determine from which kidney it comes, and without the cystoscope one is at sea in diagnosing any case of hemorrhage. The most commonly overlooked condition of all kidney obstructions is prolapsed kidney with an aberrant vessel to the lower pole of the kidney or a cicatricial band producing a kink in the ureter by torsion of the kidney, which may occasion recurring attacks of indefinite abdominal pain, often in the region of the appendix. The therapeutic application of the cystoscope is a wide one: Infections of the kidney pelves and strictures of the ureter can be successfully treated; small stones can be dislodged; foreign bodies in the bladder can be snared and removed; ulceration of the bladder treated topically, and most important of all is the recent discovery that papillomata of the bladder, especially inoperable ones, can be treated successfully by a process of fulguration. Another important feature of the cystoscope is the determination of the sufficiency of excreting power of each kidney separately by segregation of the urine, after injection of certain drugs into the muscles, making it possible to foretell the existence of kidneys that might incapacitate after operation.

DISCUSSION

DR. E. C. RICH, Ogden: Many cases of stone in the pelvis of the kidney or in the ureter are mistaken for appendicitis. With proper instruments for doing this work, the surgical problems of the genito-urinary tract can be approached with a feeling of confidence. It requires time and patience, and considerable experience, to succeed in cystoscopy. Not long ago a patient came to me with an old, chronic cystitis. Almost every remedy mentioned in the Pharmacopeia had been used previously, without relief. With the aid of the cystoscope I found a piece of bone in the bladder. It had become detached from the pubic region in front, where an osteomyelitis had developed.

Infantile Pernicious Vomiting and Rectal Hemorrhage

DR. ANNA RIES-FINLEY, Salt Lake City: I recently attended a woman who gave birth to a well-developed male child. Nothing eventful occurred until the fourth day, when the child passed about 12 ounces of blood per rectum. I found the temperature subnormal, the pulse weak, but otherwise the child did not appear much depressed. Two hours after the first hemorrhage, the child passed about 2 ounces of dark coagulated blood and a few hours afterward, it began to vomit a greenish, slimy material; this continued at intervals during the day and night until the sixth day when the infant was noticeably emaciated. Several attacks of choking occurred when the baby attempted to swallow. The first hemorrhage occurred thirty hours after birth, and the second on the morning of the seventh day. Between these hemorrhages the bowels moved freely three or four times daily, and the material passed appeared normal. Lavage of the stomach was resorted to, but the patient was otherwise treated expectantly. A careful physical examination of the abdomen gave evidence of none of the symptoms of obstruction and elicited no pain. Life terminated on the morning of the seventh day. A post-mortem examination showed the stomach and small intestine distended with gas; the mesenteric vessels were engorged. The stomach contained a small amount of blood. The bowel was found to contain many small blood-clots floating in a serum-like fluid. The abdominal cavity contained about 1 ounce of a dark fluid after the intestines were removed. The pathologic findings were insignificant and elusive in every respect.

DISCUSSION

DR. ELSIE A. FAUST, Salt Lake City: The possibility of hemophilia occurred to me, as well as intestinal obstruction in some rare or unusual form. What makes the case more obscure is the fact that no important pathologic lesion was found on autopsy.

DR. CLARENCE SNOW, Salt Lake City: The etiology of this case is obscure. Intestinal hemorrhage in the new-born may indicate syphilis. Hemorrhage in these cases is more likely to be due to continuous capillary oozing than otherwise, and is generally inaccessible. In hemophilia, any attempt to cover the stump of the umbilicus is likely to open up fresh bleeding points. The injection of normal rabbit-serum, or horse-serum, has met with success. In emergency cases diphtheria serum, with the antitoxin present, may be used, or instead antistreptococcic serum. Finally, direct transfusion of blood is often successful.

DR. ROSS ANDERSON, Salt Lake City: I wish to emphasize the value of antidiphtheritic serum in hemorrhage from any cause. I have had occasion to use it in several cases of hemorrhage, and I have felt that its use was distinctly beneficial. I believe also that the calcium salts might be administered with advantage.

DR. J. F. CRITCHLOW, Salt Lake City: This condition is one I have never met. Intussusception should not be thought of. There are, no doubt, cases of intussusception which are not continuous or persistent, but temporary or recurrent. In intussusception sometimes the condition will unfold itself spontaneously. A case of this kind occurred once in my practice. During the administration of the anesthetic and the manipulation of the abdomen in cleaning the skin preparatory to operation, the intussusception disappeared. On opening the abdomen, I found evidence sufficient to verify the diagnosis.

DR. O. B. FOWLER, Denver: In an article written by one of the interns of the New York Lying-In Hospital, human blood-serum was used in seventeen cases of intestinal hemorrhage, with 100 per cent. of recoveries. In another series of twelve cases, treated by other means, they all terminated fatally. I have seen three or four cases of intestinal hemorrhage in the new-born, all but one of which terminated fatally. I think that this condition occurs as often as once in a hundred births. I would recommend the use of serum in every case. I do not believe that direct transfusion would be as successful as the use of serum.

DR. GILL RICHARDS, Salt Lake City: I have seen autopsies done in three or four cases of fatal intestinal hemorrhage in the new-born. The striking feature was the absence of any evidence of eroded blood-vessels. I think that these hemorrhages are due to oozing from the mucous membrane of the intestinal tract. I have also seen a few patients successfully treated with serum.

DR. G. C. EMERY, Preston, Ida.: This is a rare condition. I recall the case of an infant that began vomiting blood on the second or third day after birth. There was nothing to indicate obstruction or distress. Every little while, however, the child would regurgitate considerable quantities of dark blood. It died within a few days. I believe there may have been a specific history in this case.

DR. C. E. WEST, Salt Lake City: It has been my misfortune to meet with four of these cases. Two patients died and two recovered. I believe that the cause of death in these cases was intussusception. There was no specific history, and pernicious vomiting was not present. One of these infants passed about a pint of blood from the bowel at one time. No post-mortem examination was allowed.

DR. ANNA RIES-FINLEY, Ogden: I thought of intussusception and my examination of the child covered this point, but the abdomen was soft on palpation and appeared normal in every respect. Post-mortem examination revealed nothing noteworthy, and I found no evidence of a preexisting intussusception that had rectified itself.

Infections of Maxillary Antrum and Appliance for Drainage

DR. H. VAN COTT, Salt Lake City: Chronic infections of the antrum of Highmore often resist both medical and surgical treatment, because the facilities for drainage are poor. The ostium is situated practically at the roof of the antrum and drains into the middle fossa of the nose. Swelling of the mucous membrane of the antrum closes the ostium, so that the only outlet to the cavity is closed, thus locking up the secretions. Drainage of the antrum under natural conditions is adequate, but when a chronic purulent condition exists, the natural system of drainage becomes very inefficient. I have seen several cases of chronic infection of the antrum extending over a period as long as nine years; all the patients were operated on without satisfactory results. Postoperative treatment of these patients was discontinued because the pain of treatment was even greater than the suffering occasioned by the disease.

The radical operation can be carried out easily. It is done by an incision in the mouth, over the anterior wall of the antrum, carried to the bone; the cavity is curetted and washed with an antiseptic solution. Curettage is often impossible, or a failure, on account of the inaccessibility of certain parts that cannot be reached. The nasal wall is then opened freely and gauze packing is carried through the first opening into the antrum, then through the nasal opening and out through the nostril. The incision in the mouth is closed. After the packing is removed the patient depends on the nasal drainage for a cure. A cure will often follow, but, as a rule, the nasal opening is closed before the infection has ceased and drainage is defeated. In the alveolar method, the first or second molar tooth is extracted, and an opening is made through the process into the antrum. The opening is enlarged and the cavity curetted, washed out, and a gauze wick is inserted to keep the cavity draining, or a vulcanite plug is placed in position to keep the antrum opened to provide for irrigation and drainage.

By means of an appliance which I have devised, such patients can be promptly cured in a comparatively short time, and with decidedly less pain than by other means. The appliance consists of a gold tube, reaching through the alveolar process and ending a trifle above the floor of the antrum, ⅛ of an inch in diameter, tapering slightly toward the distal end. The tube can be vulcanized into an artificial plate, if the patient has no teeth, and it can be removed in an instant and kept clean at all times. If the patient has teeth, the tube can be vulcanized into a partial plate. If desired, a cap or crown can be fitted snugly over the end of the tube to prevent food from entering the cavity during mastication. By having the patient lean forward, tilting the head to one side, and inserting the tip of a rubber-bulb ear syringe into the tube, the cavity can be washed out thoroughly. When the diseased condition ceases the distal end of the tube may be ground down to a level with the inner surface of the plate. The opening in the process will close in time.

DISCUSSION

DR. R. R. HAMPTON, Salt Lake City: If every antrum had a level floor and there were no irregularities to deal with, the method of treatment devised by Dr. Van Cott might be a very satisfactory one. In the radical operation, the nasal opening will not close if it is made large enough, and one will have all the drainage that is needed.

DR. FRED STAUFFER, Salt Lake City: I do not believe that a drainage tube inserted as Dr. Van Cott has explained will cure every one of these patients. The procedure seems unsurgical to me, because if the radical operation is done through the canine fossa, and one curets all the diseased mucous membrane down to the floor of the nose, removing the anterior end of the inferior turbinate bone, and making an opening into the nose and keeping it packed until the opening heals, there will be no difficulty in curing these patients unless the cases are specific or malignant in origin. Sometimes results will be disappointing, because pus will be found discharging into the antrum from above, from the ethmoidal cells. In other words, the infection of the antrum may be secondary. If healing does not take place within a reasonable time, bismuth paste may be injected with very satisfactory results.

DR. W. M. STOOKEY, Salt Lake City: A great many failures in these cases are due to the fact that the opening from the nasal side into the antrum is too small. If the opening is large enough, it will never close up. I do not approve of the extracting of teeth to provide a way for inserting the drain, as advocated by Dr. Van Cott.

DR. H. VAN COTT, Salt Lake City: Many people lose their teeth early, and the loss of a tooth is a trivial matter when compared with the loss of the mucous membrane in the nose. In the cases that I have quoted the patients were previously operated on, but unsuccessfully. When an opening is made through the alveolar process, one is opening into the floor of the antrum, into the most dependent portion of it, and in the position most favorable for drainage. The success of this operation depends largely on cleanliness. The cavity should be frequently flushed out and kept clean, and the simple operation advocated will often yield surprisingly satisfactory results, after the radical operation has actually failed.

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

Second Annual Meeting, Held in Chicago, Nov. 16-19, 1911

(Continued from page 1787)

The Friday afternoon session was devoted to hearing reports and resolutions from the various sections.

Registration of Births

DR. J. S. NEFF, Philadelphia, presenting the report of the Committee on Birth Registration: Proper birth registration is to be considered the foundation of the safety of infant life, and, in order to be of value, must be done thoroughly. In fifteen states and in many cities accurate machinery exists for the registration of births, but in many others having such provision the work is not carried out thoroughly. One city, having birth laws for nineteen years, admitted that 20 per cent. of the births were not registered; another, having laws for an equal period, admitted that 25 per cent. to 35 per cent. of the births were not reported. The power of the association should be directed against physicians and midwives who fail to report births. Until such states and cities provide for accurate birth registration, they are not entitled to a representation in the association. Birth registration is the starting

point for every measure for the prevention of infant mortality. Otherwise, the efforts of social workers, visiting nurses and others is blind work. Registration would permit of thorough and systematic work. The Committee on Birth Registration therefore wishes to amend the proposition of last year by the statement that it should be the object of the association to aid in demanding the official enforcement of the registration laws.

Dr. Neff offered the following resolution, which was carried: "Resolved that the American Association for the Study and Prevention of Infant Mortality respectfully requests the United States census office to supply the secretary of the association from year to year with a list of those states and municipalities which have presented satisfactory evidence of registering at least 90 per cent. of their births, and that this association in their official statement of infant mortality confine its statistics to such states and cities, and that the death-rates be expressed in proportion to the number of children born."

Recommendations on Eugenics

PROF. H. E. JORDAN, University of Virginia, presented a report from the Section on Eugenics recommending the creation of public sentiment by moral suasion, by the church, by segregation, by legislation authorizing surgical procedures, and the improvement of economic conditions, for greater productivity among our better stock; in view of the report of the Chicago Vice Commission, the reporting of syphilis and gonorrhea, and in some cases isolation; the establishment and endowment of national hygienic investigations by trained scientists; the inauguration of collective investigations among the members and others to procure as complete information as possible regarding hereditary transmission of defects and diseases. He said that there seemed to be complete unanimity in the Eugenic Section regarding the hereditary transmission of syphilis, and the need of radical measures to prevent it. There was no unanimity regarding the hereditary transmission of tuberculosis. The section believed that there should be compensatory measures against the anti-eugenic effects of indiscriminate infant conservation.

The resolutions and recommendations of the committee elicited considerable discussion and were then carried.

A resolution from the Housing Committee that a standing committee be appointed to secure uniform statistics on infant mortality and morbidity from municipal officials and workers connected with the affiliated societies and associations of the association, was reported to the executive committee with an expression of approval from the association.

A resolution that the association urge the mayor and the council of the city of Chicago to give serious consideration to an increase to the funds available for the Health Department of the city of Chicago, with special reference to the improvement of housing conditions, was carried after considerable debate.

The committee from the Section on Nursing and Social Work offered recommendations that the education of mothers in prenatal care, preparation of clothing, the hygiene of babyhood and infant-feeding be made an integral part of the work of infant welfare clinics or stations and other agencies, and that methods be promoted for immediate relief for babies whose parents could not afford to pay for higher grade milk, and that the extension of "Little Mothers Clubs" be urged.

A resolution was adopted that all training schools for nurses be encouraged to add courses in social service, and that all nurses and social workers establish closer connection with each effort for community welfare; that attention be called to the lack of instruction and care in health matters in rural districts, that the National Red Cross be asked to consider the proposal made to it some time ago to inaugurate visiting nursing in neglected communities; that state and municipal control of the milk-supply and the permanency of milk stations be secured.

Infant Welfare Work in the United States

DR. J. W. SCHERESCHEWSKY, U. S. P. H. and M.-H. S.: Public schools should be utilized as centers through which information is diffused to the home on infant hygiene and feeding. Results obtained in the reduction of infant mortality are only to be guessed at, because of the incompleteness of the statistics and the difference in collecting the results, but it can be stated without hesitation that considerable reduction in infant mortality has been effected, but only a very small portion of the infants requiring attention have been reached. The work has been of preliminary and emergency character. Accurate statistics are necessary, and these will require complete birth and death registration. These would enable them to formulate measures for prevention. Unofficial agencies cannot cope with these conditions; federal, state and municipal assistance are required.

Prevention of Infant Mortality: One Aspect of the New Humanitarianism

MISS JANE ADDAMS, Hull House, Chicago: I call it the new humanitarianism because of the way in which the wave of humanitarianism or of any other movement goes forward, lapses and then goes forward again. Humanitarianism at the time of the French Revolution had to do largely with the thirst for freedom. Equal opportunity was desired. This lasted for sixty years after Waterloo. It expressed itself in America, and in England through such men as Cobden and Bright. Then there was a change. The idea of imperialism and materialism developed. In the nineties, there came again the beginning of a new wave of humanitarianism. We do not care so much now for freedom in the abstract, but for opportunity for the fullest development of life. We have come in this conference to a test of that humanitarianism. If babies die in tenement houses as now constructed, then we are agreed that something is wrong. If a city has a high death-rate, which is abnormal, then we conclude that that city's affairs must be gone into. We investigate the water-supply and the milk-supply and other features. So that in addition to the old enthusiasm for human life there has come this new enthusiasm with this best test which the older men knew nothing about—the test of the little child—and on that test we are willing to take our stand as never before.

The Public and the Reduction of Infant Mortality

DR. H. J. GERSTENBERGER, Cleveland: Physicians and nurses are not trained in the prevention of infant mortality on account of deficient teaching forces or because the material does not suffice for teaching purposes and most institutions have no funds to do research work. The public is ignorant. It does not appreciate the number of lives lost and what they mean to the nation and does not know that the remedy lies in its own hands. The remedy lies in the education of the parents, advisers and the public at large. Infant welfare stations are needed. Nurses should have postgraduate courses; so should physicians. The public at large should be educated in every possible way. High-class medical schools should be the centers from which the best knowledge is obtained. The eighth grade of the public schools is the place to educate the future mothers. Many will never enter the high schools where the instruction might be continued. In England this is done. In New York and Chicago, "Little Mothers' Clubs" have been inaugurated and instruction given. This ought to be made compulsory in the graded school curriculum. The only other means is through the education of physicians and nurses and for this we would need many more efficient hospitals for infants. The physician is the one who directs not only the scientific but also the practical end of the work of the reduction of infant mortality. Accurate statistics concerning birth-rates and death-rates are absolutely necessary. The governments of cities and states and the national government through a national board of health should do this work, but until they do we must depend on private agencies and they should be liberally supported.

Town Cows

DR. W. A. EVANS, Chicago: Milk is only one of the factors that enter into the baby problem. Therefore milk is not a solution of the entire problem. There is a certain percentage

of mothers who are not able to nurse their children; a larger percentage think they cannot. There are many children for whom it is necessary to use milk from cows. But we interpose between the cows and the babies a railroad track and a wagon at both ends. Everything intervening between the babies and the source of their milk-supply is a potential danger. In a city like Chicago, much milk is seventy-two hours old, some is forty-eight and some is twenty-four, before being used. The rational thing is to eliminate as much of this time and handling as possible. The cows should be brought back to town, not uncontrolled as formerly, but under such conditions of control as will result in an improved milk-supply. An objection is raised that cows cannot be exercised in a town. The highest grade of milking cows are kept in the stable the year round. The stabling of cows in the city is therefore not a radical departure. Milk cows last four or five years. Where kept in sanitary stables and kept well the percentage of sickness among the cows is not so large as among those left outside. With improvement in sanitary conditions that would result from this experience the betterment of the health and a lengthening of the period of the productivity of the cows would result. Perhaps 25 per cent. of increased cost would ensue in the city. Much of this would be in food, but much of the food consumed in dairies is now shipped from the cities to the country. This increased cost would be offset by eliminating the shipping charge, the overhead charge and the distributing charge, so that the production of milk would be more economical. An objection is that the cows in town would constitute a source of nuisance. There are 70,000 horses in Chicago; there are 4,800 in the ward in which we are to-night. If we tolerate this nuisance we ought to be willing to tolerate 8,000 cows supplying all the babies needing cow's milk in the city. A properly kept dairy can be kept free from offense. There are no great difficulties. It will be easier to keep the cows tested for tuberculosis and to protect the milk against typhoid fever, scarlet fever, diphtheria and other milk-borne diseases. Of far greater menace is age and dirtiness and the temperature of the milk. Better inspection can be kept up. The public can see the conditions and the milk will not be old. Milk produced in ideal stables if old is not as good as that produced in ordinary stables if not more than twelve hours old. In the parks and squares of the city, the cows could be placed for the producing of milk for the service of the children in the city. Some of the parks have stables. Some are in the milk business. They will furnish good milk instead of bad, young milk instead of old. The effect will be educative in addition to being needed.

Special Methods in Great Britain

MISS ELLEN C. BABBITT, New York: England is in advance of this country in the study and prevention of infant mortality and schools are being conducted in all the important cities of that country where girls are taught how to care for babies. It has been found that the keeping of a large number of babies under one roof in institutions is fatal to their welfare and as largely as possible they are boarded out.

Resolutions Concerning the Milk-Supply

PROF. E. O. JORDAN, Chicago, Chairman of the Section of the City Milk-Supply, reported the following resolutions as the sense of that section:

Resolved that we recognize the danger to human beings and especially to children from the bovine tubercle bacillus. We therefore demand protection against this danger by the enactment and enforcement of laws requiring the tuberculin-testing of all cows furnishing milk for human consumption.

Resolved that until such a time as the tuberculin-test is efficiently applied we recommend the pasteurization of milk under municipal, state and national control.

The first resolution was adopted by the association. Dr. Jordan supported the resolution concerning pasteurization, as did also Mr. Phillips of New York and Dr. W. A. Evans of Chicago.

DISCUSSION

DR. GEORGE W. GOLER, Rochester, N. Y.: Most pasteurization is done for the purpose of keeping the milk and not for the prevention of disease. We should teach the people to pasteurize the milk at home. The law in New York as to pasteurization is a political measure. The passage of this resolution would delay the introduction and enforcement of a law providing for the tuberculin-test and will help the man who produces dirty milk to go on in his dirty old way.

DR. W. A. EVANS, Chicago: Let us not in striving for ideal conditions forget that there are actual conditions to be met at once. Let us not allow the children to die of scarlet fever, diphtheria and septic sore throat, allow consumption to be spread by tuberculous cattle, allow men to be killed by typhoid bacilli by reason of the fact that some day we hope an ideal will be attained. Therefore pasteurize the milk.

The resolution was referred to the executive committee for further consideration. Professor Jordan agreed that the question was not a proper one for resolutions by a body like the association.

Report of the Committee on Midwifery

DR. MARY SHERWOOD, Baltimore, Chairman of the Section, reported resolutions as follows:

Resolved that it is the sense of the Section on Midwifery that the teaching of obstetrics in medical schools is grossly inadequate; that no time should be lost in according to the teaching of obstetrics an importance equal at least to that accorded medicine and surgery.

It is the sense of the Section on Midwifery that the study of local midwifery conditions should be urged as a means of collecting facts with which to direct public opinion with regard to this important subject.

The extent of outdoor dispensaries and hospital obstetric facilities is advocated as one of the most efficient measures for obviating this source of maternal sickness and death and the high infant mortality-rate.

These resolutions were approved by the association.

A resolution recommending that a minimum standard of training be required for all who practice midwifery and that midwives be under state or municipal control and regulation was not adopted by the association as there was considerable opposition, among physicians chiefly, to the idea of recognizing midwifery in any sense.

A resolution that the nursing profession be asked to extend its field of usefulness by including the practice of midwifery for normal cases, elicited a great deal of discussion and went over for the same reasons as the previous resolution.

Officers Elected

The following officers were elected for the next year: president, Dr. Cressy L. Wilbur, Washington, D. C.; president-elect for 1913, Dr. L. Emmet Holt, New York; vice-presidents, Dr. Joseph S. Neff, Philadelphia, and C. A. Otis, Cleveland; secretary, Dr. H. J. Gerstenberger, Cleveland; and treasurer, Austin McLanahan, Baltimore.

The next meeting will be held in Cleveland.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Infectious Diseases, Chicago

November, 9, No. 3, pp. 213-478

1 Complement Fixation Test in Diagnosis of Syphilis in Military Service; Analysis of 3,950 Tests. C. F. Craig, Washington, D. C.
2 Effect of Specific Vaccines on Rat Typhoid. E. Steinhardt and T. Flournoy, New York.
3 *Secondary Infection in Pulmonary Tuberculosis. Recovery of Streptococcus and Pneumococcus from the Blood. R. T. Pettit, Ottawa, Ill.
4 *Infection by Gas Bacillus in Coal-Mines. O. Koltz and W. L. Holman, Pittsburgh.
5 Cleaning Efficiency or Sanitary Value of Vacuum Cleaners. W. D. Frost and V. Armstrong, Madison.
6 Susceptibility of Certain Domestic Animals to Plague Infection, with Particular Reference to that of Ground-Squirrel Origin. G. W. McCoy and C. W. Chapin, U. S. P. H. and M.-H. S.

7 *Nature of Proteolytic Substances in Blood. G. F. Dick, Chicago.
8 *Comparative Virulence of Pneumococcus in Sputum of Lobar Pneumonia at Various Stages of Disease, with Special Reference to Crisis. J. A. Luetscher, Baltimore.
9 Blood of Dairy Cows in Tick-Infested Regions. R. P. Hibbard and D. C. Neal.
10 Interpretation of Tests for B. Coli Communis. W. R. Copeland and C. P. Hoover, Columbus, Ohio.
11 *Experimental Immunity with Reference to Leprosy Bacillus. C. W. Duval, F. B. Gurd and R. Hopkins, New Orleans.
12 *Specific Antibodies in Scarlet Fever. K. K. Koessler and J. M. Koessler, Chicago.
13 Relation of Illuminating Gas to Public Health. W. T. Sedgwick and F. Schneider, Boston.
14 Mankato Typhoid Epidemic of 1908. H. M. Bracken, F. H. Bass, F. F. Wesbrook, H. A. Whittaker and H. W. Hill, St. Paul.

3. **Secondary Infection in Pulmonary Tuberculosis.**—A total of 130 cases, including instances of all stages of pulmonary tuberculosis, from passive incipient involvement to far-advanced active processes with cavity formation, were examined by Pettit. Streptococci and pneumococci were recovered from the blood in sixty. Positive blood cultures were obtained in a relatively small number of cases classed as "incipient," whereas the percentage was almost three times as great among the "advanced" cases. From the "far-advanced" cases the percentage of positive results was almost twice that among the "advanced" cases and four times that of the "incipient" cases; fifty-eight of the sixty positive cultures were obtained from "advanced" and "far-advanced" cases. Approximately two-thirds of the positive cultures were obtained from individuals showing a very distinct afternoon fever.

4. **Infection by Gas Bacillus in Coal Mines.**—There appears, from the authors' findings, to be an unusual frequency of infection by the gas bacillus among those receiving lacerated injuries in the coal-mines. This infection gives all the clinical manifestations of gaseous phlegmon while the bacteriologic analysis indicates the presence of a member of the *B. welchii* group of organisms. The clinical observation of a rapid destruction of the red blood-cells during life in these infections is of interest and is probably associated with the rapidly fatal course in many cases. The hemolytic effect may also be observed in cultures.

7. **Proteolytic Substances in Blood.**—The results of Dick's experiments would indicate that the proteolytic substances of the blood are of a nature resembling that of the immune bodies, especially the lysins.

8. **Virulence of Pneumococcus in Lobar Pneumonia.**—Luetscher believes that crisis is not a result of any change in the virulence of the pneumococcus. As long as pneumococci are expectorated from the lungs (for a short time in cases with crisis, for a longer period in cases with lysis) the organisms retain practically their original virulence. Strains obtained from pharyngeal swabs during the pneumonic process have the same virulence as those obtained from the sputum. Strains obtained from pharyngeal swabs after the lungs have resolved and expectoration has ceased, have a relatively low grade of virulence. A strain obtained from the throat of a patient not ill with pneumonia, had the same relative virulence as strains obtained from the throats of convalescent patients in whom the physical signs had disappeared. Loss of virulence of organisms obtained from the throats of patients who have recovered from pneumonia, seems to be due to an unfavorable action of the saliva. From the results obtained in one case, there does not seem to be any difference in virulence of the organisms obtained from the blood and those obtained from the sputum.

11. **Experimental Immunity Against Leprosy Bacillus.**—In none of the cases treated by the authors with leprosin have new lesions developed after the local reaction was obtained. In early cases there is a complete subsidence of all visible lesions and other signs of the disease in four to six months after systematic treatment has been begun and carried out. They believe, therefore, that the proper administration of the product of *B. leprae*, whether the protein extract or the whole killed bacilli are used, will not only ameliorate the condition of the leper but in early cases, including both types of the disease, will bring about a permanent cure.

12. **Specific Antibodies in Scarlet Fever.**—The authors believe that the serum of scarlet-fever patients contains specific antibodies for an unknown virus. This unknown virus seems to be present especially in the cervical lymph nodes.

Texas State Journal of Medicine, Fort Worth

November, VII, No. 7, pp. 183-208

15 *Intestinal Anastomosis by Invagination. W. W. Grant, Denver.
16 Blood-Pressure in Practice of Medicine and in Life Insurance. J. S. Lankford, San Antonio, Tex.
17 Prevention of Influenza. W. Shropshire, Yoakum, Tex.
18 Colitis. W. H. Stauffer, St. Louis.
19 Tendency of Modern Surgery. J. M. Inge, Denton, Tex.

15. Appeared in *Surgery, Gynecology and Obstetrics*, August, and abstracted in THE JOURNAL, Sept. 9, 1911, p. 925.

New Orleans Medical and Surgical Journal

November, 64, No. 5, pp. 335-410

20 *Problem of "Nervous Indigestion." G. M. Niles, Atlanta, Ga.
21 Cleaner and More Healthful New Orleans. C. Chassaignac, New Orleans.
22 *Paratyphoid Fever and Its Prevention by Means of Trivalent, Anti-Typhoid Vaccine. R. Lyons, New Orleans.
23 Epidemiologic Features of Plague in South America. H. D. King, New Orleans.
24 Painless Hematuria. F. C. Walsh, San Antonio, Tex.
25 Proper Feeding of Infants. C. H. Rice, New Orleans.
26 *Results of Investigation Concerning Extent of Uncinariasis in Louisiana. S. D. Porter, New Orleans.

20. **Nervous Indigestion.**—The whole plan of treatment outlined by Niles is based on reinforcing the weakened digestive functions, wherever situated, pressing every procedure with kindly interest and sympathetic optimism, keeping the patient as busy as practicable, heading off doubts and fears, springing, if possible, some therapeutic surprise at every visit, encouraging each glimmering ray of hope, providing ample calories, so that bodily strength may promote nervous equilibrium, and, without slighting the main issues, taking cognizance of the countless little intercurrent and irritating ills always present.

22. **Paratyphoid Fever.**—The average duration of fever in the four cases cited by Lyons was approximately fourteen days. All patients complained at the onset of headache, rather severe in character. All patients presented a palpable spleen at some time during the course of the disease. In one case mention is made of rose spots. There was a tendency to constipation, necessitating enemata. In Lyons' own case the patient took a purge and his bowels remained loose until convalescence. The relative slowness of the pulse as compared to the degree of temperature, so commonly observed in typhoid, was present in all four cases. The temperature curves show nothing distinctive except, perhaps, some tendency to irregularity. None of the patients showed any mental symptoms, as delirium, etc. On the whole the cases differed in no material way from a very mild type of typhoid. Lyons found in this study that an attack of typhoid or anti-typhoid vaccination does not protect against paratyphoid infection. The advantage of the trivalent anti-typhoid vaccine over the ordinary anti-typhoid vaccine is that the individual inoculated is immunized at the same time, not only against typhoid, but also against paratyphoid infections.

26. **Uncinariasis.**—Porter quotes figures to impress the relation between soil pollution and uncinariasis. One thousand eight hundred and five microscopic examinations taken at random showed 40 per cent. infection. In the nine Southern states now conducting an active campaign for the eradication of uncinariasis 101,735 persons have been examined and 43,000 cases of uncinariasis diagnosed.

Journal of Medical Society of New Jersey, Orange

November, VIII, No. 6, pp. 283-336

27 Early Diagnosis of Pulmonary Tuberculosis. I. E. Charlesworth, Bridgeton, N. J.
28 *Excision of Superior Maxilla for Sarcoma of Antrum. W. B. Johnson, Paterson, N. J.
29 Operation for Cleft Palate After Infancy. L. Emerson, Orange, N. J.
30 Diagnosis and Treatment of Some Special Conditions Seen in Epileptics. W. T. Shanahan, Sonyea, N. Y.

28. Abstracted in THE JOURNAL, July 22, 1911, p. 317.

Bulletin of Medical and Chirurgical Faculty of Maryland, Baltimore

November, IV, No. 5, pp. 73-85

31 *Why Should Physicians Attend Medical Societies? L. F. Barker, Baltimore.
32 Central Directory of Registered Nurses. J. Ruhrah, Baltimore.

31. Why Should Physicians Attend Medical Societies?—One's standing in the medical profession can, says Barker, to a certain extent, be measured by his relation to the various medical societies. Some physicians attend no medical society at all; these represent, on the whole, the lowest stratum of the profession. Others attend only their town or county medical society. Still others enjoy, in addition, the meetings of the state society and of certain special societies dealing with the parts of medicine in which they are particularly interested. The more advanced members of the profession in every community attend the American Medical Association. Only a few of the hardest workers and best known men in the profession attend the special national associations and international congresses. Medical societies have grown more interesting and more profitable with the general rise of private scientific societies during the 19th century. Most thinking men in the medical profession have seen the necessity of improving the organization of medical knowledge. It is a great advantage to physicians to meet one another on common ground, where they can compare their results and collect facts which will help them in their work. Two features of the more recent development of medical societies have been (1) the tendency to increase in number and (2) the tendency to become more and more specialized. There are both advantages and disadvantages accompanying these tendencies. The time consumed in attending a large number of meetings is considerable; it is rare that any one physician can attend all the general and special medical meetings held in a large city; he is compelled to make a selection. The specialization which has occurred is beneficial in that it leads small groups of men interested in the same subject, to meet together and to discuss problems in which they are really interested. It is necessary, however, to have a certain number of medical societies of more general nature, in order that there may be a proper synthesis and coordination of the scattered work of the special societies, so that in the first place, the general practitioner may profit by it, and, in the second place, the special worker in each branch may keep in touch with medicine as a whole.

Journal of Medical Association of Georgia, Augusta

November, I, No. 4, pp. 117-152

33 The Gall-Bladder. J. L. Campbell, Atlanta.
34 *Drinking Water with Meals: A Physiologic and Dietetic Study. G. M. Niles, Atlanta.
35 *Penetrating Wounds of Abdomen. J. R. B. Branch, Macon.
36 Why Medical Association of Georgia Should Lend Its Influence in Revising Present Commitment Laws of Insane in Georgia. J. C. King, Atlanta.
37 Observations on Alimentary Canal. J. C. Brock, Carrollton.
38 Congenital Intestinal Occlusion. G. A. Wilcox, Augusta.
39 Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax. S. T. Harris, Valdosta.

34. Abstracted in THE JOURNAL, June 10, 1911, p. 1755.

35. Abstracted in THE JOURNAL, May 27, 1911, p. 1603.

Buffalo Medical Journal

November, LXVII, No. 4, pp. 181-242

40 Case of Myocionus Associated with Unilateral Epileptoid Convulsions. J. W. Putnam and E. A. Sharp, Buffalo.
41 *Treatment of Subacute Gonorrhea and Complications. C. W. Bethune, Buffalo.
42 Polarimetry as Applied to Urinalysis. H. F. Lichtenberg.
43 The Austin Flood. E. H. Ashcraft, Coudersport, Pa.
44 Three Years with Army of Potomac. W. W. Potter, Buffalo.

41. Treatment of Subacute Gonorrhea.—Bethune has found the following formula to be very soothing as a local application in epididymitis:

R	Gm. or c.c.		
Mentholis	1	or	gr. xv
Ung. Belladonnæ	1	33	gr. xx
Ung. Credé	2		gr. xxx
Ichthyolis	4		gr. lx
Petrolati, q.s.	ad 30		oz. i

The swelling subsides in about ten days.

Journal of Oklahoma State Medical Association, Muskogee

November, IV, No. 6, pp. 221-274

45 *Surgery of Urachus. R. V. Smith, Guthrie, Okla.
46 Theories of Immunity and Vaccine Therapy. W. R. Bevan, Oklahoma City.
47 Case of Eclampsia and Treatment. L. T. Strother, Nowata, Okla.
48 Case of Acute Catarrhal Laryngitis (Not Diphtheritic) Requiring Intubation. D. D. McHenry, Oklahoma City.
49 Diagnosis and Treatment of Acute Appendicitis. J. E. Gilcreest, Gainesville, Tex.
50 Management of Normal Labor. G. W. Graves, Hitchita, Okla.
51 Prevention of Postoperative Pain and Shock. L. F. Watson, Oklahoma City.

45. Surgery of Urachus.—Smith reports three cases. The first case was that of a girl 5 years old. In attempting a rapid incision to drain a diffuse suppurative peritonitis originating in the appendix, he made an opening nearly an inch long in a patent urachus. The second case was that of a girl, aged 16. In making a 2-inch median incision when operating for acute appendicitis, Smith found a fibrous band ¾ inch across at the lower angle of the wound outside of the peritoneum. A closer investigation revealed a patent urachus extending 1 inch from the pubic arch. The third patient was a man 34 years old. This patient gave a history of trouble at the umbilicus since childhood, though he could never recall having had any leakage of urine at the navel. His present trouble dated back about three months previous to the time of coming to hospital. Examination revealed a small, strawberry-like tumor protruding from the navel and a hard, indurated mass extending for about 2 inches on either side, including the greater part of both recti muscles. This mass could be traced well down towards the pubic bone. Quantities of foul-smelling pus exuded from the umbilicus. The operation consisted of entire removal of the mass down to and including a large part of both recti and a section of peritoneum. Well down in the tumor about 2½ inches from the navel was found a mass of sebaceous material about equal in size to a pigeon's egg. The pedicle of this tumor proved to be a broad, fibrous urachus about 1 inch across and ⅜ inch in thickness. The gross appearance of the mass was that of malignancy, yet the pathologic report showed the strawberry excrescence to be papillomatous and the other main portions of tumor fibrous tissue.

Journal of the Tennessee State Medical Association, Nashville

November, IV, No. 7, pp. 251-279

52 Operative Treatment of Acute Gonorrheal Epididymitis. P. Bromberg, Nashville.
53 When Does the Gonorrheic Cease to Be Infectious? C. F. Anderson, Nashville.
54 Treatment of Cancer of the Skin and Mucous Membrane. J. M. King, Nashville.
55 Submucous Resection of the Nasal Septum. E. C. Ellett, Memphis.
56 *Duty of Country Physician to the Mother and Child. H. C. Curtis, Algood.
57 Surgery of the Intestines; Report of Cases. J. H. Carter, Memphis.
58 Problem of Longevity as Related to Life Insurance. J. W. Johnson, Chattanooga.

56. Abstracted in THE JOURNAL, May 6, 1911, p. 1355.

Louisville Monthly Journal of Medicine and Surgery, Ky.

November, 18, No. 6, pp. 162-192

59 *Medical Tendencies. R. H. Babcock, Chicago.
60 *Indebtedness of Posterity to Pioneer Surgeon of Mississippi Valley. J. D. Bryant, New York.
61 *Physicians and the People. J. C. Wilson, Philadelphia.
62 *Certain Factors Relative to Etiology of Pellagra. C. C. Bass, New Orleans.

59, 60 and 61. Abstracted in THE JOURNAL, Nov. 11, p. 1635.

62. Etiology of Pellagra.—Bass has been able to produce a disease in a fowl with skin lesions exactly resembling those of pellagra in man by feeding corn-meal spoiled by inoculation with a pure culture obtained from a supposed source of pellagra.

Journal of the American Public Health Association, Columbus

October, I, No. 10, pp. 677-749

63 An Isolation Hospital Built and Operated by a City Department of Health. R. E. Wodehouse, Fort William, Ontario.
64 *Yellow Fever Has Dissappeared from the Mexican Republic. E. Liceaga, Mexico City, Mexico.
65 Effect of a High Tax on the Struggle Against Alcoholism. R. Serrano, Puebla, Mexico.
66 Influence of Storage and Various Preservatives on the Dissolved Oxygen in Waters. A. Lederer, Chicago.
67 Diphtheria and Its Prophylaxis. J. F. Arteaga, Havana, Cuba.

64. Abstracted in THE JOURNAL, Sept. 24, 1911, p. 1837.

St. Paul Medical Journal, Minn.

November, XIII, No. 11, pp. 483-522

68 Technic in Brain Surgery. R. Earl, St. Paul.
69 *Gonorrheal Endocarditis Which Developed During Convalescence, After Series of Gynecologic Operations. J. L. Rothrock, St. Paul.
70 Acute Meningeal Infection: Case for Diagnosis. C. E. Riggs and E. M. Hammes, St. Paul.
71 Cerebellar Cyst Associated with Tubercular Meningitis. E. M. Hammes, St. Paul.

69. **Endocarditis.**—In Rothrock's case the patient had a recent gonorrheal urethritis at the time of the operation and which was contracted shortly before the operation. It became necessary to catheterize this patient a few times immediately following the operation. Rothrock propounds the query: could the passage of the catheter over the inflamed mucous membrane of the urethra have opened up the atrium for the passage of the bacteria, or dislodged a small thrombus which might have been swept into the blood-current?

Wisconsin Medical Journal, Milwaukee

October, X, No. 5, pp. 243-273

72 Present Understanding of the Rheumatoid Diseases. J. E. Goldthwait, Boston.
73 Action of Arsenic on the Skin. R. G. Washburn, Milwaukee.
74 Axis Traction Forceps. J. P. McMahon, Milwaukee.
75 Rupture of Abdominal Viscera Without External Injury. J. F. Smith, Wausa.

72. Abstracted in THE JOURNAL, July 22, 1911, p. 315.

Kentucky Medical Journal, Bowling Green

September 15, IX, No. 18, pp. 787-808

76 Is Yankhauer's Recent Work a Real Discovery in Otology? G. C. Hall, Louisville.
77 Management of Acute Appendicitis and Indications for the Interval Operation. H. H. Grant, Louisville.
78 Ulcer of the Stomach. J. D. Hamilton, Louisville.
79 Congenital Hypertrophic Stenosis of the Pylorus; Report of Case. E. F. Katzmann, Louisville.
80 Laryngeal Stenosis: Possibly Non-Diphtheritic. E. F. Katzmann, Louisville.

Illinois Medical Journal, Springfield

November, XX, No. 5, pp. 501-606

81 *Rabies. A. M. Stimson, Washington, D. C.
82 *Euglobulin Reaction in Urine. A. R. Elliott, Chicago.
83 Unilateral Pyelonephritis. E. Mammen, Bloomington, Ill.
84 *Functional Kidney Diagnosis. L. E. Schmidt and H. L. Kretschmer, Chicago.
85 *Diagnosis and Treatment of Infections of Renal Pelvis. L. W. Bremerman, Chicago.
86 *Anesthetist as Member of Surgical Team. T. W. Gillespie, Peoria, Ill.
87 Clinical Manifestations of Arteriosclerosis. A. M. Miller, Danville, Ill.
88 Englewood Typhoid Fever Epidemic. A. G. Bosler, Chicago.
89 *New Tonsil Hemostat: Its Routine Use in Tonsillectomy. A. M. Corwin, Chicago.
90 What General Practitioner Should Know About the Eye. E. C. Spitze, Edwardsville, Ill.

81. **Rabies.**—Wounds received from any animal in which rabies is suspected, Stimpson says, should be cauterized as soon as possible, preferably with nitric acid and a physician consulted as to the advisability of taking the Pasteur treatment. He calls this treatment a makeshift because it is an attempt (usually successful to be sure) to ward off the evil effects of an infection which should never have occurred. The evidence of the efficacy of this treatment has heretofore been statistical and by inference from animal experiments. We can now add to this the fact that the blood-serum of persons and animals so immunized contains specific antibodies, which are capable of destroying the virus in a test-tube. But this treatment is expensive, time-consuming, somewhat painful and not absolutely certain, since a small percentage (about 0.5 per cent.) of treated persons die of hydrophobia despite treatment. Those who have to do with dogs should bear in mind if one becomes sick it may possibly be coming down with rabies, especially if opportunity for infection has occurred. A change in disposition, unusual affection and desire to be petted or the opposite, surliness and a desire to be alone, and extreme restlessness, should excite suspicion and the animal should be confined in a safe place for a few days of observation. A very common source of infection is by exposure to saliva while attempting to remove a supposed bone from the throat of a dog which is in reality suffering from paralytic rabies. Better let the veterinarian remove the bones; it is dangerous, but his business. When a person has been bitten by a dog there is a tendency on the part of many people to kill the animal immediately. This is bad practice for several reasons: The dog may have had nothing the matter with it, or may have been suffering from some other disease than rabies, as a few days of observation would have shown. Or it may have been in the early stages of rabies when the characteristic Negri bodies are sometimes insufficiently developed to make an early diagnosis possible. Of course when the dog is furious and manifestly dangerous to approach, it must be killed, but even then preferably after a veterinarian has had an opportunity to see it. When a dog has died or been killed for suspected rabies the head of the animal should be sent as expeditiously as possible to the laboratory for diagnosis and in the warm months it should be packed in ice.

82, 84 and 85. Abstracted in THE JOURNAL, June 17, 1911, p. 1843.

86. **Anesthetist as Member of Surgical Team.**—Miller insists that the anesthetist should have a general working knowledge of the technic of the particular surgeon with whom he is working. The anesthetist should be a graduate of medicine, familiar with surgical conditions and having a knowledge of sensitive and non-sensitive structures. He should follow each stage of the operation as it proceeds and vary the anesthetic accordingly.

89. Also published in THE JOURNAL, Nov. 4, 1911, p. 1533.

Lancet-Clinic, Cincinnati

October 21, CVI, No. 17, pp. 413-427

91 *Medical Tendencies. R. H. Babcock, Chicago.
92 *Doctors and the People. J. C. Wilson, Philadelphia.
93 *The Indebtedness of Posterity to the Pioneer Surgeons of the Mississippi Valley. J. D. Bryant, New York.
94 Ancient House Doctors and Interns. T. C. Minor, Cincinnati.

October 28, CVI, No. 18, pp. 441-446

95 Surgery of the Lungs: Pneumonectomy. B. M. Ricketts, Cincinnati.
96 Letters to Physicians: Nameless, Indescribable and Mysterious Suffering. G. M. Gould, Ithaca, N. Y.
97 Ancient House Doctors and Interns. T. C. Minor, Cincinnati.

November 4, CVI, No. 19, pp. 466-484

98 Alcoholic Problems in Medical Examinations. T. D. Crothers, Hartford, Conn.
99 Imperative Problems of Medicine. J. Krauss, Boston.
100 Auto-Therapy. C. H. Duncan, New York.
101 Old Days and New. J. C. Reeve, Dayton, Ohio.

November 11, CVI, No. 20, pp. 500-505

102 Relation of the Alienist to the General Practitioner and to the Public. R. H. Cook, Oxford, Ohio.
103 Plastic Repair of the Penis. E. O. Kane, Kane, Pa.
104 Surgery of the Lungs. B. M. Ricketts, Cincinnati.
105 Ancient House Doctors and Interns. T. C. Minor, Cincinnati.

91, 92 and 93. Also published in the *Louisville Journal of Medicine and Surgery* and abstracted in THE JOURNAL, Nov. 11, 1911, p. 1635.

Denver Medical Times and Utah Medical Journal, Denver

November, XXXI, No. 5, pp. 169-212

106 *Plan for Uniting Medical Profession in Effort to Maintain Highest Possible Standard of Ethics. I. B. Perkins, Denver.
107 Physical and Functional Defects Resulting from Nasal Obstruction. C. F. Osgood, Ogden, Utah.
108 Diseased Children. J. N. Hurty, Indianapolis.
109 Menace of Clandestine Prostitution. G. H. Bogart, Terre Haute, Ind.

106. **Plan for Uniting Medical Profession.**—The essential features of the plan proposed by Perkins are to organize societies for the purpose of dealing with ethical questions only, whose object would be to educate the profession and in some instances, perhaps, the public as well, along ethical lines; also to discuss any and all questions of ethics and to decide by vote what is or is not ethical and to make such by-laws as may be agreed on, for the purpose of governing the actions of its members, and in all ways to work for the maintenance of the highest possible ethical standard. Then publish a list of all the members of the Medical Ethics Society so that the public may know who are members in every locality. Also publish the by-laws of the society. Drop from membership anyone who fails to live up to the by-laws and

publish his name as having been dropped. The plan contemplates the formation of state, county and national societies on similar lines of organization to the present county, state and national societies.

Virginia Medical Semi-Monthly, Richmond

October 27, 16, No. 374, pp. 341-364

110 Medicine: Its Function, Scope and Limitations. O. C. Wright, Jarratt, Va.
111 Chronic Colitis. J. R. Verbrycke, Washington, D. C.
112 Sanitation in Virginia Cities and Towns. R. K. Flannagan, Richmond.
113 Management of Post Parturient Period. G. Baughman, Richmond.

New York Medical Journal

November 18, XCIV, No. 21, pp. 1009-1056

114 *Relation of Pharmacopeia to Practice of Medicine. S. Solis-Cohen, Philadelphia.
115 Inspection. M. I. Knapp, New York.
116 Value of Patients' Histories. B. Robinson, New York.
117 Sigmoidoscopy. A. Bassler, New York.
118 *Relation of Natural Antisheep Amboceptor to Wassermann Reaction. H. L. B. Peters, New York.
119 *Exophthalmos in Nephritis: Its Etiology. L. A. Levison, Toledo, Ohio.
120 Obscure Symptomatology with Tumors of Fourth Ventricle. G. R. Lafora, Washington, D. C.
121 *Purpura. D. Elliott and H. S. Martland, Newark, N. J.
122 Unusual Case of Lichen Planus in Negro. J. L. Kirby-Smith, Jacksonville, Fla.

114. Pharmacopeia and Practice.—Solis-Cohen objects to the prescription of drugs, unless they are intended to effect a necessary and definite purpose, indicated by pathologic and pharmacologic knowledge, or by well attested empiric observation. This objection applies to a drug that is not needed; to a drug that cannot effect the physician's purpose; to the wrong dose—too much or too little, one is as bad as the other—and to a drug that will harm instead of helping. It does not apply to a drug chosen wisely and skilfully administered. After all, the correct application of any and all remedial methods rests on the judgment and the knowledge—the wide knowledge and the balanced and comprehensive view—the discrimination and the common sense of the physician who applies them. He says, let us rejoice that year by year, day by day, our resources are increasing, our knowledge is enlarging. But let us not deceive ourselves with the idea that our knowledge is final; that we can be dogmatic in rejection or acceptance; or that the view of any individual, however learned or however able, can compass the whole vast domain of medical science and art.

118. Antisheep Amboceptor.—In a series of tests made by Peters using a cattle instead of a sheep system as indicator, the results have been uniformly good. No negative cases gave positive reaction, while of the cases of clinical syphilis, the reaction was found to be 12 per cent. more sensitive than with the sheep system. In each case in which a positive reaction was obtained with the cattle system, and a negative with a sheep system, the serum was found to contain more than 2 units of natural antisheep amboceptor. Cattle corpuscles are as easily obtained as sheep, and are used in the same dilution. The reaction with them as with sheep corpuscles is clearly cut; there is no agglutination or precipitation such as often occurs when a human system is used.

119. Exophthalmos in Nephritis.—Levinson believes that exophthalmos occurs in chronic nephritis to a much greater extent than has been supposed. He reports two cases.

121. Purpura.—The authors report a case of purpura fulminans developing in a baby 1 year old, in the course of a pneumococcus pneumonia. They think the evidence is strong enough to consider purpura fulminans as a secondary toxic purpura and not as a distinct clinical entity.

Medical Fortnightly, St. Joseph, Mo.

October 25, XXXX, No. 8, pp. 431-452

123 Neuro-Functional Disturbances in Children and Best Treatment to Prevent and Correct Resultant Deformities. J. W. Cokenower, Des Moines, Iowa.
124 Some Thyroid Problems. C. B. Davis, Chicago.

Boston Medical and Surgical Journal

November 16, CLXV, No. 20, pp. 747-786

125 *Use of Whole Milk and Fat-Diminished Milk in Infant Feeding. E. A. Darling, Cambridge, Mass.
126 Southern California as Winter Resort. G. G. Sears, Boston.
127 *Bone Plates and Clamps in Excisions of Knee-Joint. L. A. O. Goddu, Boston.
128 *Sciatica: Etiology and Treatment. M. H. Rogers, Boston.

125. Whole Milk and Fat Diminished Milk in Infant Feeding.—The main points made by Darling are: (1) That cow's milk unmodified or modified simply by dilution or removal of part of its fat content is a suitable food for infants. (2) That digestive disturbances in babies fed on cow's milk are usually due to an excess of fat. (3) That the caloric requirement according to the age and weight of the infant is the best guide in calculating the amount of food to be given.

127. Bone Plates and Clamps in Excisions of Knee-Joint.—Goddu presents a general summary of eight excisions of tuberculous knees, in which metal plates or clamps were used to keep the cut surfaces in good position. It is very interesting to note how tolerant disease tissue is of the presence of metal plates; and that the results obtained by their use seem to justify the employment of this fixative method in these operations. Six patients, three with plates and three with clamps, showed good union in three to six weeks after operation. The two cases which did not give as good results were two in which reexcisions were done, a fact which leads Goddu to infer that these patients lacked ability to form proper callus, rather than anything due to the presence of the plates. Both patients have now practical ankylosis; one at a period eight months after operation, the other nine months after. All of the cases were not specially picked, but such as were operated on as they presented themselves one after the other in the general routine of the clinic. The knee-joints presented those from a mild to a marked disintegration. The ages of the patients varied from 18 to 57 years. The period of conservative treatment varied from two to seven years. It is now about two years since the first knee in which plates were used was operated on, and the patient has had no symptoms. The same may be said of the other patients.

128. Sciatica.—Sciatica is referred pain due to some lesion near the sacral plexus, and is not a clinical entity. The most common cause is a disturbance of the sacro-iliac joint, so that, according to Rogers, treatment should be directed toward the joint lesion rather than the referred nerve pain.

New Mexico Medical Journal, Las Cruces

October, VII, No. 1, pp. 1-34

129 Mastoid Surgery. E. H. Irvin, El Paso, Tex.
130 Septal Deviations. L. T. Ritchie, Trinidad, Colo.
131 Dental Surgery. C. A. Eller, Albuquerque, N. Mex.
132 Tonsillectomy. W. G. Shadrach, Albuquerque, N. Mex.
133 Abscess of Liver. W. G. Hope, Las Vegas.
134 Control of Small-Pox in Rural Districts and Small Municipalities. H. M. Bracken, St. Paul.

Archives of Internal Medicine, Chicago

November 15, 8, No. 5, pp. 557-716

135 Congenital Obliteration of Bile-Ducts. C. P. Howard, Iowa City, Iowa, and S. B. Wolbach, Boston.
136 *Duodenal Diagnosis: Roentgen-Ray Considerations. E. H. Skinner, Kansas City, Mo.
137 *Ameboid Movements in Macrocytes and Megaloblasts. R. S. Morris, St. Louis, and W. S. Thayer, Baltimore.
138 *Effect of Some Hydrotherapeutic Procedures on Blood-Flow in Arm. A. W. Hewlett, J. G. Van Zwaluwenberg and M. Marshall, Ann Arbor, Mich.
139 *Investigation of Depressor Action of Pituitary Extracts. C. P. McCord, Ann Arbor, Mich.
140 *Hemolytic Skin Test for Cancer. L. M. Warfield, Milwaukee, Wis.
141 *Recovery of Typhoid Bacillus-Carrier During Vaccine Treatment. W. V. Brem, Los Angeles, and F. C. Watson, Cristobal, Canal Zone.
142 Subacute Liver Atrophy. L. S. Milne, New York.
145 *Diagnostic Value of Mitotic Figures in Cells of Serous Exudates. L. F. Warren, Ann Arbor, Mich.
144 *Percussion Signs of Persistent or Enlarged Thymus. T. R. Boggs, Baltimore.
145 *Nitrogen and Fat Metabolism and Other Functional Tests in Chronic Pancreatitis. H. G. Barbour, Baltimore.
146 Metabolism in Case of Idiopathic Osteopsathyrosis. A. Bookman, New York.
147 Coagulation-Time of Blood as Affected by Various Conditions. M. Solis-Cohen, Philadelphia.

136. Abstracted in THE JOURNAL, Oct. 14, 1911, p. 1309.

137. Ameboid Movements in Macrocytes and Megaloblasts. Since the observations made by Thayer of ameboid movements in a megaloblast, the authors have studied the fresh blood of five severe anemias. In three of the bloods examined

ameboid motion was striking not only in many of the megaloblasts but also in the macrocytes. The absence of ameboid activity in the two remaining cases is attributed to the almost complete lack of unusually large cells in the blood. To determine the effect of temperature, specimens were examined on the warm stage at body heat. It was impossible to see any difference in the ameboid activity of cells studied in this way and those at room temperature. The cells, both megaloblasts and macrocytes, exhibiting ameboid movements were for the most part well colored, many seeming to be richer in hemoglobin than the average cell. A few, paler than the majority of the surrounding reds, were seen to change form, but no difference was determined in the motion of such cells and those more highly colored. No suggestion of crenation was observed in the ameboid cells. That the alterations in shape observed were not the result of osmosis is made probable by the absence of shadows or crenated erythrocytes in the neighborhood of those studied, and, further, by the fact that smaller red cells and many which were large remained immobile.

Many poikilocytes and normocytes were studied. In no case was there the least evidence of change in form while they were under observation.

138. **Effect of Hydrotherapeutic Procedures on Blood-Flow in Arm.**—The authors found that when hot water is applied to the arm, the local rate may be increased from four to eight times, and when cold is applied the local rate may fall to one-half or one-fourth of the original. These variations are often associated with similar, though less marked changes in the blood-flow in the opposite arm. The latter is also influenced by the room temperature and the chillness or warmth of the individual. A diminution of the contractile power of the vessels may occur after exposure to excessively hot water. General hot procedures cause a marked acceleration in the blood-flow through the arm, and general cold procedures without exercise, friction or drying decrease the blood-flow in the arm. When exercise, friction and drying are given with cold procedures, the slowing may be more or less neutralized and the rate may even be raised somewhat above the original. Acceleration of blood-flow in an arm not directly exposed to the hot procedure is due in the main to reflexes excited by thermic stimulation of the cutaneous sense organs. The rise of body temperature, however, tends to prevent an excessive contraction of the peripheral vessels when the individual is exposed to cold. If the body temperature is subnormal an immediate reaction may follow cold procedures which are accompanied by friction and exercise, but the individual is liable to become chilly later.

Reactions are usually, but not necessarily, accompanied by normal or moderately increased rates of flow.

139. **Depressor Action of Pituitary Extracts.**—McCord claims that the depressor action of pituitary extract elicited by repeated injections is not due to the fatigue of any peripheral mechanism, nervous or muscular. Perfusion experiments indicate that it constricts all the blood-vessels of the body by a direct action on the muscles of the arterioles, and often repeated injections show practically no decrease in the constrictor reaction. Organs removed from animals giving only a depressor reaction with pituitary extract show on perfusion with the extract in Locke's solution the typical constriction of their vessels. The depression of blood-pressure following numerous injections of pituitary extract is not due to an overbalancing of peripheral constriction by a central dilator influence. Such a counteracting dilator influence of central origin is always weak and no more pronounced after repeated than after the initial reaction, and moreover it does not come on until the fall of pressure is at its lowest. Sudden depression or slowing of the heart, though occasionally showing as a notch in the blood-pressure records, is not the cause of the typical drop in pressure obtained after repeated injections, for such depression is not similar either in conformation or in time to the depression obtained by the latter means, and may in fact exceptionally occur with a strengthened heart. Experiments indicate that when the blood becomes sufficiently saturated with pituitary extract, an interaction takes place which converts its constricting action on the peripheral vessels into a dilating one.

140. **Hemolytic Skin Test for Cancer.**—A total of all the injections made by Warfield shows that 67.6 per cent. were negative and 32.4 per cent. positive. In spite of the fact that tuberculous persons are said to possess more isohemolysins than normal persons, the figures of a few cases show 66.6 per cent. negative reactions. Leaving out the cases of malignant tumors, there are sixty-four cases with twenty positive and forty-four negative. This is quite different from the 94 per cent. negative reactions found in all other diseases by Elsberg, Neuhof and Geist. It seems evident that the same irregularities obtain in the hemolysis *in vivo* as that *in vitro*. The most evident point brought out by Warfield is that the test cannot be said to be of any great value in the diagnosis of early carcinoma.

141. **Typhoid Bacillus-Carrier.**—The patient in this case was a white child, female, aged 4½ years. Shortly after her attack of typhoid fever, her father and mother were infected. Typhoid organisms in pure culture were isolated from the child's urine. Hexamethylenamin had been administered to the patient during two weeks of convalescence from the typhoid attack. Practically the only treatment given was vaccination with autogenous vaccines. Nine doses were given, increasing from 25 to 1,500 million. The bacilli decreased gradually and disappeared after the ninth vaccination. Eleven successive urine cultures were positive for *B. typhosus* and then five successive cultures were negative. The total duration of the bacilluria, from the time of normal temperature, was about six months. The patient appeared to be a continuous carrier. It seems that the disappearance of the bacilli was not an intermission but a true recovery, brought about by the gradual healing of a chronic lesion under the influence of vaccination.

143. **Mitotic Figures in Cells of Serous Exudates.**—Very many cells undergoing mitotic division in serous exudates are almost diagnostic of malignant disease. Warren believes that this occurs more often in sarcoma than in carcinoma. A small number of mitotic figures is suggestive of malignant disease but is of no certain value in diagnosis. In the majority of the exudates associated with malignant disease no division figures are seen.

144. **Percussion Signs of Persistent or Enlarged Thymus.**—The differentiation of dulness in the mediastinum due to thymus enlargement from other masses in this region Boggs says will depend on several factors. The thymus is higher and more superficial than the mediastinal lymph-glands usually involved in tuberculous or other mediastinitis, or which may be the seat of primary or metastatic tumors. Thoracic aneurysms, tumors or inflammatory masses of the mediastinum are practically fixed in position and no considerable change in percussion is made out, when the head is retracted. Thymus dulness is almost constantly much more marked on the left of sternum than on the right. Thymus dulness can be made to shift by the following maneuver, viz.: The patient sits up; the back is supported by the nurse or assistant, if necessary. The chin is depressed toward the sternum. The dulness is outlined behind the manubrium and in the interspaces, then the head is retracted as far as possible toward the mid-line of the back and, on repeating the percussion, the lower border of dulness will be seen to have shifted upward, often as much as an interspace or more. On again depressing the chin, the dulness assumes its former position. In some cases of persistent or enlarged thymus, there may be no dulness in the first interspace, but only in the second and below it. Of the eighty children and five adults, thirty-five children and four adults showed positive signs of persistent or enlarged thymus. This number included twelve of the measles cases. All but three of the positive cases showed general lymphadenitis of varying grades; many had also hypertrophied tonsils. Of the hospital patients, fourteen in number, nine were between 8 and 18 years, and five between 22 and 47. Of the fourteen patients, only five were colored. The children were nearly all sick with acute infections, including typhoid, pneumonia, pleuritis, diphtheria, etc. Of the adults, two had exophthalmic

goiter and two diphtheria, though it is to be observed that these last have still the same signs of enlarged thymus, a year or more after the diphtheria. The extent of dulness varied from 2 to 7 cm. from the midsternal line, the average being about 2.5 to 3 cm. Only two patients could be examined with Roentgen ray. Both had very large glands and showed a shifting shadow in the thymus region to the left of the manubrium. One case of the series came to autopsy, when the percussion findings were amply confirmed by the presence of a gland measuring 9 cm. by 8 cm. by 2 cm.

145. **Nitrogen and Fat Metabolism and Other Functional Tests in Chronic Pancreatitis.**—The case described by Barbour was one of chronic insufficiency of the external secretion of the pancreas subsequent to acute cholecystitis. There was no diabetes at any time. While azotorrhea and steatorrhea were both marked features on admission, the fat absorption was over 95 per cent. during the metabolism observations. The nitrogen absorption during a period without therapy averaged 55.8 per cent. While hydrochloric acid was given, the average was 47.6 per cent. During the feeding of pancreatin (not rhenania) 54.2 per cent. of the ingested nitrogen was absorbed. The nitrogen balance was normal during the metabolism work. Rapid improvement followed the administration of pancreatin (rhenania) and calcium carbonate. None of the other functional tests applied to the case gave significant results. From 4 liters of urine atypical "Cammidge crystals" were isolated.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

November 4, CLXXXI, No. 4601, pp. 1247-1314

1 Acute Iritis. N. B. Harman.
2 Treatment of Diabetes Mellitus. E. I. Spriggs.
3 *Two Cases of Sarcoma of Thymus. W. Sheen, C. A. Griffiths and H. A. Schölberg.
4 *Operative Treatment of Badly United Fractures. W. A. Lane.
5 *Venesection. R. F. Fox.
6 *Prevention of Anthrax Infection Due to Imported Hides and Skins. C. W. Ponder.
7 Treatment of Bubonic Plague by Immediate Incision of Glands. V. B. Nesfield.
8 *Acetonuria in Childhood. R. S. Frew.
9 *Experiments on Causation of Beriberi. E. A. Cooper and C. Funk.
10 Carbolic Acid Coefficient of Disinfectants. F. T. Merchant.
11 Leishmania and Mosquitoes. G. Franchini.
12 Drill and Development: Plea for Universal Military Training. L. B. Crane.

3. **Sarcoma of Thymus.**—These are two cases of primary sarcoma of the thymus occurring in young males, in both of which the chief symptom that caused the patients to seek medical treatment was due to tracheal obstruction. In one, aged 7 years, relief was afforded by opening the superior mediastinum; in the second, aged 18 years, the conditions were more unfavorable and the patient died soon after being seen. In the first case the bilobate character of the growth as revealed at operation, coupled with microscopic examination of some of the pieces of growth then removed, allowed a probable diagnosis of sarcoma of the thymus to be made during life. Both cases were in young males and showed an acute onset; dyspnea, at first in attacks; dilated veins of the neck and thorax, swelling of the lower part of the neck and dulness over the manubrium. Direct laryngoscopic examination was of value in determining the site of the obstruction. Division of the manubrium sterni and the removal of portions of growth pressing on the trachea permanently relieved dyspnea. That these two cases were sarcomata arising primarily in the thymus is suggested by the fact that the main mass of the growth in the chest occupied the situation and had the shape of the thymus. The character of the growth in the neck likewise supported this interpretation, for both cases showed an asymmetric distribution in which the chief bulk of the tumor was on the right side in the position occupied by the thymus when it is found in the cervical region. The microscopic characters, too, were consonant with a sarcoma arising in the lymphoid tissue of the thymus and the malignant nature was established by the destructive infiltration of the surrounding structures and the distant metastases.

4. **Operative Treatment of Badly United Fractures.**—One of the cases reported by Lane represents a badly comminuted fracture of the femur which was operated on five months after the bone had been broken, and the other, multiple fractures of the tibia and fibula operated on twelve weeks after the injury. Both cases had been under the care of very eminent surgeons and in neither, apart from operation, was there the slightest prospect of restoring the patient to active usefulness. Both cases are illustrated by radiograms taken at intervals. They are of particular interest since they show the manner in which callus serves to render secure the junction of a broken and deformed bone in which it has been impossible to obtain any large area of bone apposition without shortening the limb very materially and so reducing its usefulness and the symmetry of the individual in a corresponding degree. They also show that the crystallization of lines of force takes place progressively in a marked manner later in life and for a long period after the union of the fractured ends has been effected. This entails the careful retention of the leg for a considerable time in an apparatus by means of which the weight of the body is transmitted from the tuberosity of the ischium to the foot. Such an apparatus enables the patient to get about at an early stage of convalescence, while the gorging of the limb with blood consequent on the dependent position of the leg during locomotion assists very materially in the formation of callus. Lane urges that great care should be taken to encourage this engorgement within reasonable limits and to avoid any direct pressure on the seat of fracture which is likely to reduce its blood-supply.

5. **Venesection.**—During the past twenty-seven years Fox has employed this treatment in various conditions, often with immediate and striking benefit, sometimes with temporary improvement and sometimes too late to be of any signal service. On no occasion has he found cause to regret the venesection and never has any ill-effect been noticed as a result of it. He has preserved records of eighteen cases and twenty-eight occasions in which he has had recourse to it. Venesection in some cases appears to influence in a favorable manner the progress of specific diseases, both acute and chronic, probably by heightening the natural resistance of the tissues; it helps to restore the balance of the circulation and the normal distribution of the blood by a dilator effect on the arterial system; a small venesection may have a powerful and apparently disproportionate influence, not only in quieting the circulation, but the nerve centers also. This is witnessed in uremic coma or convulsions and in the crises of pain and dyspnea in aneurysm. Excessive blood-pressures have been more or less permanently reduced by venesections far too small to produce such effects in a direct manner. Fox says that such facts as these suggest that the respiratory and vasomotor centers are concerned in these actions; and that there are morbid states of the circulation and the nervous system, both acute and chronic, which are in some unknown manner peculiarly sensitive to a slight reduction in the amount of the circulating blood.

6. **Prevention of Anthrax Infection.**—The process recommended by Ponder consists in placing the dry hides for twenty-four hours in a "soak" which is made up to contain 1 to 2 per cent. of formic acid and 0.02 per cent. of perchlorid of mercury and then "salting" them with sodium chlorid. The action of the "soak" is to swell up the fibers of the hide by causing them to absorb water, the result being that the hide returns to a condition closely resembling that in which it was when taken from the animal's carcass. This swelling action also effects the dry albuminous matter which may be supposed to protect the spores, the perchlorid of mercury therefore permeates the protecting material and its full action can be exerted. Moreover, as has long been known, the presence of the weak acid prevents the rapid deterioration of the germicide from the formation of insoluble albuminates. After the "soak," the "salting," by again abstracting water, converts the hides into a condition which differs very little from the "wet-salted" state of a hide which had been so treated immediately after flaying.

8. Acetonuria in Childhood.—Funk found that acetonuria occurs in childhood with great frequency. In the large majority of cases the carbohydrate starvation necessary for its production is caused by a temporary failure of digestion, brought about by change of diet. The condition is the more easily set up the younger the child and the digestive instability becomes less marked as age advances. About three days are required before the digestive processes can accommodate themselves to a change of diet. Disease, with few exceptions, has no influence on the production of acetonuria in childhood.

9. Causation of Beri-Beri.—It appears from Cooper and Funk's studies that the polyneuritis induced in birds by a diet of decorticated and polished rice is not due to the deficiency of phosphorus compounds, but to the absence of some substances not of protein nature, devoid of phosphorus, soluble in water and acidulated alcohol, dialysable and precipitated by phosphotungstic acid and the precise nature of which is being at present investigated by Funk.

British Medical Journal, London

November 4, No. 2653, pp. 1145-1240

13 Surgical Requirements of Narcosis and Available Methods. D. W. Buxton.
14 *Experimental Investigations on Pituitary Body. Handelsmann and V. Horsley.
15 Acute Poliomyelitis. A. B. Soltau.
16 Epidemic of Acute Poliomyelitis in Cornwall. A. Gregor and L. B. Hopper.
17 Epidemic Anterior Poliomyelitis in Huntingdonshire. C. B. Moss-Blundell.
18 Operative Treatment of Glaucoma. P. Smith, R. H. Elliot and J. G. Clegg.
19 Convergent Squint and Heterophoria. C. Worth.
20 Comparative Anatomy of Ciliary Region. T. Henderson.
21 Treatment of Chronic Dacryocystitis. W. B. I. Pollock.
22 Extraction of Lens in Capsule, with Special Reference to Smith Operation. A. Sheppard.
23 Use of Carbon Dioxid Snow in Ophthalmic Work. L. J. C. Mitchell.
24 Photometer for Use of School Physicians. N. B. Harman.
25 Anaphylaxis. W. d'E. Emery.
26 Pathogenic Effect of B. Coli. H. D. Rolleston.
27 Cirrhosis and Primary Carcinoma of Liver. E. Glynn.
28 Action of Radium on Tissues. P. Mills.
29 The Blind and Census of 1911. N. B. Harman.

14. Pituitary Body.—The authors have made experiments on fifty-four animals, namely, twenty cats, twenty-one dogs and thirteen monkeys, in which the pituitary gland was reached by either of two methods, (1) temporal, (2) palatal. The second method was employed only in the cat. In the temporal method the opening of the skull was made on one side only, the left. In some cases they did not remove the gland, but only separated it from the base of the brain; in some others they cauterized the infundibulum. In about half of all the experiments they observed cerebral symptoms, *mouvements de manége*, hemiparesis, hemianopia and in all monkeys temporary ophthalmoplegia on the side of the operation. All these symptoms gradually passed away. In all cases, with exception of animals dying from operative shock, they made a very careful microscopic examination of the sella turcica and of the base of the brain. Of the whole series of experiments, in fifteen (two cats, nine dogs and four monkeys) the gland, for example, pars anterior, pars posterior and pars intermedia fissuræ, was completely removed; that is, they could not find even cells of the pars intermedia infundibuli. They had also some animals in which there were some few cells of the pars infundibuli remaining; but these animals they do not count as having had a complete removal of the gland (contrary to Cushing) because sometimes in these remnants they found quite active cells with colloid in the lumen of the acini and so on. On the other hand, to show that after the so-called complete removal of the gland all the animals do not always die quickly with symptoms of cachexia, as Cushing and Paulesco claim, they present the following facts. Eight animals died within forty-eight hours, for example, from shock, hemorrhage or infection. Of the remainder, three died within four days with no symptoms regarded by Cushing as characteristic of a cachexia; but where not due to one of the above named causes were, in the opinion of the authors, attributable to edema cerebri. There remain four cases (all monkeys); in three of these death occurred naturally on the thirteenth, fourteenth and thirty-ninth days, and one animal was killed in good health on the one hundred and fifteenth day. In the three instances in which the animal died naturally no "characteristic" symptoms were observed and the animals became asthenic and died, as many monkeys do in captivity. It is clear, they conclude, that the whole question of the vital importance of the gland will require careful review.

Australasian Medical Gazette, Sidney

September 20, XXX, No. 9, pp. 485-546

30 Progress in Medicine. F. A. Pockley.
31 Recommendations of Melbourne Consumption Conference. C. Reissmann.
32 Splenectomy. H. C. Hinder.
33 Catching Cold. W. N. Robertson.
34 Initiation of School Medical Inspection in Queensland. E. E. Bourne.
35 Case of Tetanus Treated by Magnesium Sulphate. N. Markwell.
36 Volvulus of Intestine. A. M. Cudmore.
37 Case of Hemorrhage from Stomach in Newly Born. M. D. Nesbitt.
38 Congenital Color Blindness. G. H. Taylor.
39 Case of Tubercular Peritonitis Treated by Drainage and Marmorek's Serum. E. J. McDonnell.
40 Case of Cystitis Due to B. Coli Treated with Vaccine. H. B. Follit.

Journal of Obstetrics and Gynecology of British Empire, London

September, XX, No. 3, pp. 85-150

41 *Origin of Uterine Muscle in Relation to Blood-Vessels. H. R. Clarke.
42 Tuberculous Pyosalpinx. A. H. F. Barbour and B. P. Wattson.
43 Two Cases of Perithelioma: (1) of Uterus; (2) of Tube. A. H. F. Barbour and B. P. Watson.
44 Cervical Polyp Exhibiting Decidual Changes. J. H. Ferguson and J. Young.
45 Simple Papilliomata Removed from Vaginal Vault After Vaginal Hysterectomy for Cervical Cancer. J. H. Ferguson and J. Young.
46 Exophthalmic Goiter and Pregnancy, Labor and Puerperium. C. White.

41. Origin of Uterine Muscle.—Clarke's research demonstrated that during fetal life the uterus has a trabecular arrangement, and the arteries appear to grow into the trabeculæ from the broad ligament. The venous spaces seem to arise *in situ*. There is extremely pronounced growth of the muscular tissue of the arteries in the uterus. This increase was computed at 28.57 per cent. during the latter five and a half months of fetal life and 15.55 per cent. from birth to the end of the period of childhood. During infancy a cavernous condition exists in the mesometrium and by arterial invasion of the venous spaces the condition of the adult uterus is attained. This process, which Clarke has called "Condensation," is completed by the end of the period of childhood, six to seven years. Cavernous tissue and condensation were observed in the wall of the Fallopian tube and to a slight extent in the vascular structures of the vaginal wall. The cavernous tissue of the mesometrium is similar to that which exists in erectile tissues, e. g., corpora cavernosa; also to the sponge-work in the fetal heart of man and the adult heart of some amphibians. The venous spaces in the cavernous tissue of the human uterus are not obliterated, but remain as potential rather than actual spaces. They have a delicate endothelial lining and external to this a fibrous connective-tissue layer. They are concerned in erection of the uterus and in the formation of maternal blood-sinuses during pregnancy. The development of uterine muscle during fetal and infant life takes place in definite relation to vascular structures. In other words, it is in the development of muscular tissue in the trabeculæ of the meshwork of cavernous structures and the muscular growth in the walls of the arteries that the growth of the mesometrium takes place. Injected specimens show that the arteries communicate with the venous spaces and also serve to indicate the great vascularity of the uterus in animals.

Indian Medical Gazette, Calcutta

October, XLVI, No. 10, pp. 369-408

47 Staff Tours and Their Uses. P. Hehir.
48 Biology of Black Mycetoma. G. C. Chatterjee.
49 Case of Madura Foot. K. W. MacKenzie.
50 Salvarsan. R. Knowles.
51 Simple and Effectual Means of Administering Salvarsan. G. Fowler.
52 Case of Acute Delirious Malaria. A. Cochrane.

Annales de Gynécologie et d'Obstétrique, Paris

October, XXXVIII, No. 10, pp. 561-624

53 *Treatment of Acute Peritonitis. (Traitement des péritonites aigues.) H. Hartmann.
54 Porro Operation by Abdominal Route for Hemorrhage with Detached, Normally Localized Placenta. (Traitement chirurgical des hémorragies utéro-placentaires avec décollement du placenta normalement inséré.) A. Couvelaire.

53. **Treatment of Acute Peritonitis.**—Hartmann remarks that from being exclusively medical, the treatment of acute peritonitis has now become exclusively surgical, and he discusses the various factors which render the affection so serious, adding that the ability of the peritoneum to rally to defense of the organism has only recently been appreciated at its true value. The peritoneum is able to master conditions if the cause is removed and most of the toxic-infectious matter evacuated; the aim is to remove the focus with the least possible disturbance, draining through the pouch of Douglas, the patient's shoulders raised. He quotes from American surgeons and endorses their principle of early intervention regardless of the cause of the acute peritonitis, but insists that it is important to differentiate the cause in order to ensure its removal. He advocates also Murphy's technic for proctoclysis; he has had no experience with Westermann's method of siphoning out the stomach content by a retention stomach sound introduced through the nose, but Kappis has recently warned not to leave the tube in place more than twelve hours at a time, as he had an eschar develop in the esophagus in a case in which the retention stomach sound had been left in place for forty-eight hours.

Archives des Maladies de l'App. Digestif, Paris

September, V, No. 9, pp. 469-528

55 *Early Fatal Cancer of the Liver. (La mort rapide dans les cancers du foie.) M. Loeper.

55. **Early Fatal Cancer of the Liver.**—Loeper comments on the peculiar liability with cancer of the liver to complications of various kinds which hasten the fatal outcome. Besides infections in the parotid glands, lungs, pleura and peritoneum which are liable to develop as complications, there is a special tendency to local hemorrhage. He reports and quotes some typical cases of the latter, ascites developing early with cancer of the liver and hemorrhage. This combination occurs with adenocancers and with liver tumors with cancerous invasion of the portal vein or its simple obstruction. Early death with cancer of the liver may be due to a subacute jaundice from hepatitis with secondary, galloping local malignant disease. Or it may be the result of autogenic intoxication, acidosis and acetonemia. He reports some instructive cases of these three main types of early fatal malignant disease in the liver, urging the importance of measures to protect the patient against alimentary intoxication and untoward effects of drugs and against possibility of septic contamination. To ward off acidosis, he advises to increase the fats and carbohydrates in the diet while cutting out meat and albumin, permitting oatmeal and green vegetables, with sodium bicarbonate to neutralize an excess of acids. Diuretics may be useful, and the family should be instructed that traveling, fatigue, etc., are liable to bring on grave and rapidly fatal complications.

Bulletin de l'Académie de Médecine, Paris

October 17, LXXV, No. 33, pp. 150-175

56 *Operative Treatment of Pyloric Cancer. (Résultats immédiats éloignés de 168 résections partielles ou subtotales de l'estomac pour cancers de la region pylorique.) E. Schwartz.
57 Indirect Gastroscopy. (Recherches cliniques sur la gastroscopie par vision indirecte.) Roger.
58 Hereditary Transmission of Experimental Tuberculosis. (Etude expérimentale de l'hérédo-tuberculose.) L. Landouzy and L. Laederich.

56. **Gastric Cancer.**—Témoin has resected the stomach in 168 cases of cancer in or near the pylorus during the last eleven years. The operation was successful in 92.3 per cent. of the cases in the last three years. He does not ligate the blood-vessels, as he detaches them from the stomach held in the left hand by working a compress through between the stomach and its vessels, front and rear. The small ramifications which pierce the wall, break off without resistance, and the minute hemorrhages resulting stop spontaneously almost at once. After resecting the cancerous region he implants the jejunum in the rear wall of the stomach, making the orifice large and suturing the mesocolon to the posterior wall of the stomach. He refuses to operate as a rule unless the cancer is in the pyloric region, as at other points recurrence almost inevitably soon follows or the malignant disease becomes generalized. When the cancer is at the pylorus, the patient grows emaciated early but he retains his appetite and strength. With cancer elsewhere in the stomach, he has a disgust for all food, but he is liable to retain his fat, and be even corpulent; if the tumor is palpable it extends to the left of the median line. The first is the surgical cancer; an exploratory laparotomy is indicated for the other form and a palliative operation may relieve. Forty-seven of his 119 patients who survived the operation are still living, nineteen from five to thirteen years since the operation and twenty-eight from two to four years. The cancer was so extensive in one case in 1898 that he was not going to venture to resect it, but yielded to the pleading of the family physician and resected the stomach, and the patient has been in robust health during the thirteen years since, eating without restrictions.

Lyon Médical, Lyons

October 15, CXVII, No. 42, pp. 753-820

59 Isolated Enlargement of Middle Lobe of the Prostate. (Cas d'hypertrophie isolée du lobe médian. Hypertrophie prostatique dite en clapet.) J. Reynard.
60 Technic for Nerve Grafting. (Technique des greffes nerveuses.) Duroux.

October 22, No. 43, pp. 821-884

61 Gastro-Enterostomy Plus Exclusion of Duodenum. (Exclusion du duodénum.) R. Leriche.

Presse Médicale, Paris

October 25, XIX, No. 85, pp. 857-864

62 Unreliability of the New Methods of Tuberculin Diagnosis of Tuberculosis. (Sur la valeur clinique des réactions diagnostiques à la tuberculine.) R. Pia.

October 28, No. 86, pp. 865-880

63 Adrenal Cortex. (La portion corticale de la capsule surrénale; ses rélations physiologiques et pathologiques avec le cerveau et avec les glandes génitales.) M. Apert.
64 *Aphthous Fever. (Modalités cliniques de la fièvre aphteuse. Son traitement.) A. Lévy.
65 Subnormal Arterial Tension and the Viscosity of the Blood. (Hypotension artérielle et viscosité sanguine.) A. Martinet.

64. **Aphthous Fever.**—Lévy has encountered a number of cases of aphthous fever assuming various forms, and sometimes persisting for several months, although four or five days is the usual course. One attack does not confer immunity, and the diarrhea or hemorrhage may be threateningly severe. The more common symptoms are headache, pain in the throat, dizziness, gastro-intestinal trouble and swelling of lymph-nodes, but there may also be pain in the muscles and spine and earache. Last summer ten patients applied for relief from painful urination, explained by presence of aphthæ on some mucosa; four others had conjunctivitis from this cause. Other patients had symptoms suggesting meningitis; another, delirium for several days. One patient had symptoms suggesting kidney calculus, colic and pleurisy, all subsiding in ten days, four days after discovery of aphthæ in the mouth. In some cases the thyroid suddenly swelled, but the swelling subsided after two or three weeks. His treatment is with diphtheria antitoxin and sodium salicylate; he gives the serum by the mouth, 10 c.c. of antitoxin in 50 c.c. of syrup of orange flowers, and follows this with a tonic containing sodium salicylate. His experience with this treatment in fifty cases has been strikingly favorable, he says, adding that antitoxin by the mouth may have a future in treatment of infectious diarrheas in general. In conclusion Lévy protests against classing aphthous fever as a stomatitis. Any mucosa may be involved and the disease may be serious and protracted, and it may be the explanation of the high infant mortality in some places.

Semaine Médicale, Paris

November 1, XXXI, No. 44, pp. 517-528

66 *Flap Laparotomy Without Buried Sutures. (Laparotomie de Rapin élargie, fermeture de l'abdomen sans fils perdus.) R. De Bovis.

66. **Curving Transverse Abdominal Section.**—De Bovis claims all the advantages of the Pfannenstiel transverse incision for the technic he describes, while it is far simpler and easier, he declares. The transverse incision curves up at both ends and is about 15 cm. long, while no sunken threads are required to close the opening. The semicircular flap of abdominal wall left by this incision is lifted and detached from the soft parts below which can easily be done upward almost to the umbilicus, while the rectus muscles beneath are readily pushed apart along the median line. By this means an opening is made into the abdominal cavity large enough for nine-tenths of the current gynecologic and obstetric operations. The soft parts are brought together again on the median line, the flap drawn down into place and a row of wire sutures introduced, passing the needle through the abdominal wall flap near the umbilicus and out again on the other side of the median line, lifting the flap again each time to be sure that the parts are accurately coaptated. Seven wire sutures are taken in this way, one below the crescentic incision. None is tied until all are in place and then the incision in the skin is sutured with silk. There is thus no dead space left and no buried sutures to suppurate, while there is no predisposition to hernia. His experience with this technic during the last few years has been very favorable. It is based on the Küstner and Rapin methods for abdominal section, but he thinks it is an improvement over both.

Beiträge zur klinischen Chirurgie, Tübingen

September, LXXV, No. 3, pp. 475-811

67 *Operative Treatment of Injuries of the Heart. (21 operativ behandelte Herzverletzungen.) E. Hesse.
68 Fibroma in the Neck. (Ueber ein verstecktes Fibrom des Halses.) E. Fabian.
69 Diverticulum in the Bladder. (Zur Operation der kongenitalen Blasendivertikel.) J. H. Zaaijer.
70 *Ossification of Laparotomy Cicatrix. (Ossifikation von Laparotomienarben.) E. Benelli.
71 Bacteriologic Research on Infectious Venous Thrombosis. (Experimentelle Untersuchungen über die Beziehungen des Staphylococcus pyogenes aureus zur infektiösen Venenthrombose.) R. Rubesch.
72 Operative Treatment of Fracture of the Elbow. (Zur operativen Behandlung der Ellenbogengelenkfrakturen.) MacLean.
73 *Metal Disks to Reenforce Suture. (Die Bleiplattennaht.) W. Jankowski.
74 *Electric Cauterization for Cancer. (Ueber Operationen mit elektrischem Lichtbogen und Elektrokaustik bei malignen Geschwülsten.) O. Hirschberg.
75 Chronic Deforming Fibrous Ostitis. (Die klinischen Formen der Ostitis chronica deformans fibrosa.) W. Klestadt.
76 *Surgery of the Stomach. (Unsere Erfahrungen über die Chirurgie des Magens.) H. Hoffmann.
77 Plastic Operations for Large Hernias. (Die Radikaloperation grosser Hernien, bes. der Bauchbrüche, unter Verlötung mit frei verpflanzten Periostlappen.) F. König.

67. **Operative Treatment of Stab and Gunshot Wounds of the Heart.**—Hesse was unable to save eighteen of the twenty-five patients on whom he operated for this cause; he discusses this material from various standpoints. The injury was a stab-wound in nineteen and a gunshot wound in the others. The patients who recovered show no ill effects from the injury, having full earning capacity from three to over seven years since. Hesse has compiled 219 cases of operative treatment of heart wounds; 103 of the patients recovered. His list includes nine cases from America, with recovery of six of the patients. He urges prompt intervention as under expectant treatment the most favorable moment for operation may pass.

70. **Ossification in Laparotomy Cicatrix.**—Benelli has encountered two cases of actual bone formation in the cicatrix after a laparotomy and reports a similar local ossification in the scar left from castration of a female pig. He cites further ten clinical cases from the literature. The majority of the patients were men and nearly all were over the age of 40.

73. **Metal Disks for Suturing.**—Jankowski thinks that the old method of tying a suture thread over a lead bead after the thread has been passed through a small metal disk, permits better coaptation of the lips of the wound, as greater force can be exerted. One bead can be added after another to increase the tension. He describes over a dozen cases to show the advantages of this old method, especially for abdominal hernias and defects in the abdominal wall, plastic operations with flaps, and certain fractures. Defects in the soft parts heal finely with this technic.

74. **Electrocautery for Cancer.**—Hirschberg reports experimental and clinical experience in fifty cases with various modes of the application of the electric current to eat out cancer. The outcome was very good in a few and extremely successful in some isolated cases in which there has been no sign of recurrence for over a year to date. On the whole, he thinks the field for the method, especially with the de Forest needle, is in removal of tumors elsewhere than in the skull, thorax or peritoneum; it obviates the danger of dissemination of cancer germs. Local inoperable cancers should be removed in this way or electrocauterized if the vicinity of large vessels does not forbid this. A combined method of treatment enables us to relieve, he says, even in advanced cases.

76. **Surgery of the Stomach.**—Hoffmann reviews the 597 operations on the stomach, performed by Kümmell in the last fifteen years, and summarizes the details of a large number of typical cases from each group. Of the 270 cases of gastric cancer, 160 of the patients were men; the youngest patient was 26. The lesion was inoperable in thirty-five patients who had had symptoms for only three months, for six months in thirty-four, for nine months in seven, and for a year in forty-three cases. In fifty-three cases the cancer was diffuse, no focus being discoverable. In only ninety cases was the outlook favorable for a radical operation. A number of instructive radiograms of callous ulcer and cancer are appended, showing conditions before and years after the operation. Recent reexamination of sixty-six patients with non-malignant disease operated on before 1909 showed excellent ultimate results in fifty-six of the cases; ten patients had some subjective disturbances, including six with objective findings, but three of this latter group were insane. Two of the four patients treated by resection were in permanent good health; the impression on the whole is very favorable to gastroenterostomy. Three of the patients succumbed later to cancer of the stomach; in one case the cancer was at another point in the stomach, the part of the stomach with the ulcer having been resected. The experience in this case is not very encouraging in regard to resecting a benign tumor for the express purpose of warding off cancer later. Before 1909, 270 patients were operated on for gastric cancer and 29 per cent. of those who survived the operation and its effects have had no recurrence for more than three years. The interval since has been from five to fifteen years in six; four years in nine; three years in thirteen and two years in eighteen. The primary mortality was 52 per cent. of the ninety-four patients whose stomachs were resected for cancer before 1909. The average survival was three years and five months, while it was only five months after gastroenterostomy. The remnant of the stomach seems to answer all purposes in the surviving cancer patients; they have resumed their business and social life, the stomach stretching and adapting itself until a nearly normal stomach cavity has resulted, especially after extensive resection by the Kocher technic.

Berliner klinische Wochenschrift

October 30, XLVIII, No. 44, pp. 1961-2008

78 *Roentgenotherapy in Surgical Tuberculosis. (Behandlung der chirurgischen Tuberkulose, insbes. der tuberkulösen Lymphome, mit Röntgenstrahlen.) B. Baisch.
79 Bacillus Coli Infection of Urinary Passages. (Coliinfektion der Harnwege.) C. Franke.
80 Cancer of the Thyroid. (Ein sarkomatöses Hämangioendotheliom der Schilddrüse.) T. Usui.
81 Chemotherapy of Pneumococcus Infection. II. (Chemotherapie der Pneumokokkeninfektion.) J. Morgenroth and R. Levy.
82 Diverticulum in Appendix. (Appendixdivertikel und Perityphlitis.) M. Zondek.
83 *Cancer of the Prostate. (Prostatacarcinome und ihre chirurgische Behandlung.) H. L. Posner.

78. **Roentgen Rays in Treatment of Surgical Tuberculosis.**—Baisch reports experiences which confirm the value of this treatment, especially in all fungous joint lesions and for tuberculous lymph-nodes. He has thus treated twenty-eight patients with tuberculous lymph-nodes, lymphomas, and expatiates on the efficacy of radiotherapy in the different stages, the simple enlargement, the softening phase and the phase with fistulas. The Roentgen rays act on even the minutest

nodes which so easily are overlooked in operating and yet are the source of relapses. With relapses after radiotherapy, its renewed application cures them also. Its principal advantage is the absence of disfiguring scars. In the second and third stages, radiotherapy, supplementing an insignificant operation, gives excellent cosmetic results, far surpassing those with extensive surgical treatment. With deeper lesions the effect of the Roentgen rays is less pronounced, but in fungous tuberculous lesions in the wrist and ankle the action is more thorough than surgical measures can possibly be, as it reaches all the tissues involved. Especially fine results are obtained with tuberculous lesions in the hand; even with the large joints radiotherapy with resection is promising, especially for recurrences after operations and as an adjuvant in management of fistulas. A few sittings may cure a tuberculous lesion with a fistula in the region of the ribs, pelvis or spine, lesions which so often resist all surgical measures. Baisch writes from the surgical clinic at Heidelberg in charge of Wilms, and adds that tuberculous peritonitis has yielded in some cases to the Roentgen rays. Wilms has recently called attention to the advantages of combining tuberculin treatment with radiotherapy.

83. **Cancer of the Prostate.**—Posner reiterates that when the prostate or part of it is unusually hard and the surface knobby, cancer may be suspected, as also when the tumor cannot be moved around or the rectal mucosa moved on the tumor. Another sign is edema in the anus region. He warns that encapsulated carcinomas are rare, and that the floor of the bladder is generally already involved, as also the lymph nodes — Pasteau found the regional lymph nodes involved in seventy of seventy-one cases examined post mortem. With cancer it is important to obtain ample access to the prostate, and for this Wilms' incision is the best, Posner declares. It runs parallel to the ascending ramus of the pubic bone and exposes amply the posterior pole of the prostate and from this point permits the seminal vesicles to be easily reached. If necessary it can be supplemented by a prerectal incision. This technic proved excellent for four patients with cancer of the prostate removed by the Wilms incision, combined in one case with the prerectal, during the last few months, the operation restoring good functioning, confirming the ease and feasibility of this technic and the good results. No attempt was made to resect the bladder in these cases as there seemed to be no indication for this, but it could have been readily done at need through the Wilms incision.

Correspondenz-Blatt für Schweizer Aerzte, Basel

October 10, XLI, No. 29, pp. 993-1024

84 The Wassermann Reaction in the Cadaver. (Ueber die Wassermann'sche Reaktion an der Leiche.) F. v. Werdt.

Deutsche medizinische Wochenschrift, Berlin

October 26, XXXVII, No. 43, pp. 1969-2016

85 *Treatment of Uterine Hemorrhage. (Behandlung der Gebärmutterblutungen.) J. Veit.
86 *Bovine Tuberculosis and Pulmonary Tuberculosis in Man. (Tierische Tuberkulose und menschliche Lungenschwindsucht.) H. Kossel.
87 Diagnostic Insufflation of the Stomach. (Einige Worte über Magenaufblähung.) B. Stiller.
88 Operative Treatment of Chronic Rigidity of the Spine. (Beitrag zur operativen Behandlung der Rechterewschen Krankheit.) K. Stern.
89 Azoospermia and Syphilis. O. Scheuer.
90 Sexual Abstinence. (Zur Frage der sexuellen Abstinenz.) P. Näcke.

85. **Treatment of Uterine Hemorrhage.**—In concluding this discussion of the general principles of treatment of uterine hemorrhage, Veit says that slight hemorrhage due to the presence of a myoma should be treated expectantly if possible, insisting on repose during menstruation, intake of large amounts of fluid, avoidance of local injury, and plenty of exercise during the intervals. Interstitial myomas should be exposed to the Roentgen rays; if this fails or the growths are large, he advocates hysterectomy, but all hemorrhages due to polypous or submucous myomas should be treated by resection, retaining if possible the body of the uterus. He warns that an inflammatory process in a tube contra-indicates active local measures on the uterus as severe consequences are liable to follow unless time is left for the declining of the virulence of the contents of the tube. He declares that much can be done in prophylaxis. Protracted menstrual hemorrhage in girls suggests the possibility of abnormal irritation of the sexual organs; the increasing use of measures to prevent conception may be responsible, he adds, for the increasing number of climacteric hemorrhages of ovarian origin.

86. **Human Versus Bovine Tuberculosis.**—Kossel reports examination of the sputum from forty-six consumptives and states that, adding these to the number already on record in which the human or bovine type of infection was determined, we have 709 consumptives with tubercle bacilli of the bovine type in only two cases and both types in only one. All the others had human tubercle bacilli alone.

Deutsche Zeitschrift für Chirurgie, Leipsic

October, CXII, Nos. 1-3, pp. 1-263

91 *Surgery of Blood Vessels. (Ueber die zirkulären Gefässnähte und Arterienvenenanastomosen, sowie über die Gefässtransplantationen.) H. Yamanouchi.
92 Lipoid Substances in Tumors. (Die lipoiden Substanzen in den Geschwülsten.) M. Dominici.
93 *Sunlight in Treatment of Tuberculosis of Bones and Joints. (Die heliotropische Behandlung der peripheren Tuberkulosis, bes. der Knochen und Gelenke.) B. Bardenheuer.
94 *Sacral Anesthesia. (Erfahrungen über Sakralanästhesie.) K. Siebert.
95 *Three Cases of Fat Embolism with Punctate Hemorrhages in the Skin. (Drei Fälle von Fettembolie mit punktförmigen Blutungen in der Haut.) G. Benestad.
96 Three Cases of Deformity of Hands and Feet. P. Scheffen.
97 Dislocation of the Astragalus-Scaphoid Joint. (Luxationen im Talo-Naviculare-Gelenk.) T. Gümbel.
98 *Treatment of Ruptured Extra-Uterine Pregnancy. (Zur Behandlung der geplatzten Extrauteringravidität.) E. Schultze.
99 Chronic Inflammatory Tumor After a Laparotomy. (Zwei Fälle von chronischentzündlichen Tumor nach Bauchdeckenschnitt.) F. Kroiss.

91. **Blood-Vessel Surgery.**—Yamanouchi reports from Japan experiments on dogs, a total of 161 operations on arteries or veins, and discusses the outcome months afterward, with the literature on blood-vessel surgery.

93. **Sunlight in the Revolution in Treatment of Surgical Tuberculosis.**—Bardenheuer has been one of the leaders in and most successful exponents of surgical treatment of tuberculosis of bones and joints, but he had occasion not long ago to examine the effects of systematic sunlight treatment of such tuberculous lesions in thirty-nine cases, including eighteen adults, and comparing them with the records of 371, all from the practice of Rollier at Leysin near Geneva, Switzerland. This experience has convinced him that far better ultimate results can be obtained with sunlight, without mutilating operations. Rollier restricts surgical measures to puncture of abscesses, although he was trained in surgery under Kocher. The joints heal without stiffness under the action of the sunlight and stiff joints become supple. Although only the severest cases are sent to Rollier, yet 284 of his total 371 patients were cured, that is, 78 per cent.; 13 per cent. improved; 6 per cent. are still under treatment, and 4 per cent. have died. The list includes sixty-one with tuberculous spondylitis, twenty-seven with peritonitis or enteritis, and sixteen with kidney or bladder tuberculosis, including five after nephrectomy. Bardenheuer now declares that operative treatment can generally be entirely avoided if the patients can have the benefit of mountain sunshine. He was so impressed with the amazing benefit from the sunlight treatment, even in apparently the most hopeless cases, that he applied it in thirty-five cases after his return home to Cologne, and states that he has been delighted with the results. One of Rollier's patients was a woman of 42 with an inherited taint. She came to Leysin in March, 1909, with a tuberculous affection of both sacro-iliac joints with numerous abscesses and involvement of the ilium on both sides. In the course of the year 2 liters of pus were evacuated by puncture repeated forty-five times. Bardenheuer tried to cure in two cases of this kind by extensive resection of the bones, but failed in both cases. In Rollier's case above mentioned, however, the patient was completely cured by July, 1911, and then returned home weighing over 37 pounds more than when she arrived. The children run around very lightly clad, even in winter, or lie

almost naked, on a balcony. In Cologne Bardenheuer had the lesions on his patients exposed to the sunlight for fifteen minutes three times a day, rapidly increasing to two or three hours, morning and afternoon or all day long, except in midsummer. As he had no facilities for sun baths he simply had the patients placed at an open window where the sun could reach the lesions. The patients enjoy the exposures and laud the sunlight treatment to their friends. He adds that it may prove a useful adjuvant to operative measures, hastening healing, and he thinks that sanatoriums might advantageously introduce local exposures of the chest in cases of pulmonary tuberculosis. He calls it the heliotrope method, from the Greek roots meaning to turn to the sun.

94. **Sacral Anesthesia.**—Siebert followed Läwen's technic and tabulates the details of sixty cases in which a major operation on the rectum, anus, vagina or vicinity was done by this epidural mode of anesthesia with great success. The relaxation of the sphincters and floor of the pelvis is the main feature of the anesthesia induced, and this renders it particularly advantageous in operations in this region. The secret of success is to inject large amounts of a concentrated solution of the anesthetic, by Cathelin's technic, keeping the pelvis much lower than the head, and waiting patiently for from ten to twenty-five minutes until the anesthetic has had time to permeate through the tough dura and reach the nerve trunks. The anesthesia lasts for about an hour.

95. **Fat Embolism.**—Benestad's three patients recovered, but all presented after a trauma great agitation with somnolency and inability to pay attention. The pulse was very weak in all, and each complained at once of difficulty in breathing, but none of pain in the side. There was slight, moderate or violent coughing but slight expectoration, with numerous pinpoint to pin-head symmetrical hemorrhages in the skin, especially on the neck and chest. The subjective initial dyspnea was the first sign of trouble in one case, coming on fifteen minutes after an iron plate had fallen on the right calf, causing a compound fracture. The punctate hemorrhages were noticed nearly five days later as the general condition improved. The symptoms suggested pneumonia except for lack of expectoration and of physical findings, and the fact that they came on fifteen minutes after the trauma. The second patient was kicked in the right calf by a horse, and the third had the femur fractured in a motorcycle accident. All were conscious that their mental condition had not been quite normal during the three weeks after their fracture. The cases teach the importance of weighing both the cerebral and pulmonary symptoms in such cases. Careful examination of the chest may reveal some abnormal sounds as in one of these cases, although there was scarcely any cough.

98. **Ruptured Tubal Pregnancy.**—Schultze concludes from his experience in fifty-two cases with five deaths that it is better to operate in every case of recent rupture of an extrauterine pregnancy, and by the abdominal route. If an encapsulated retro-uterine hemorrhage shows no signs of being absorbed in two or three weeks, laparotomy should be deferred no longer.

Medizinische Klinik, Berlin

October 29, VII, No. 44, pp. 1683-1720 and Supplement

100 Treatment of Retention of Urine. (Die Therapie der Harnverhaltung.) E. Portner.
101 Ileus. C. Ritter. Commenced in No. 42.
102 •The Spit-Cup Delusion. (Die Spuckflasche eine Illusion.) G. Liebe.
103 Dispensary Treatment with Tuberculin. H. Ulrici.
104 Polycythemia with Cerebral Paralysis. (Ueber Erythrocytose bei cerebralen Lähmungen.) F. Lange.
105 Ovaries in Determination of Sex. (Bedeutung der Eierstöcke für die Entstehung des Geschlechts.) J. Linke.
106 Bacterial Flora of the Skin and Means to Influence It. (Experimentelle Untersuchungen über den Bakterienreichtum der Haut Gesunder und Hautkranker und die Beeinflussung desselben durch einige physikalische und chemische Prozeduren.) S. Hidaka.
107 Cerebral Defects in Speech. (Ueber Apraxie.) K. Goldstein.

102. **The Spit-Cup a Delusion.**—Liebe refers to the way in which the tuberculous, supposed to use spit-cups, avoid their use when they think they are not observed, especially after return home from a course at a sanatorium. He thinks that washable handkerchiefs, or better yet, Japanese paper napkins or pieces of them, would really answer the purpose more effectually than the present spit-cup, and he urges that children should be trained to use them and to take care of them in the proper way afterward. A washable lining for the pocket to hold the handkerchief is also desirable, and cuspidors of convenient height installed in all public places, etc.

Monatsschrift für Kinderheilkunde, Leipsic

X, No. 6, pp. 281-324

108 Fermentation of Flour and Oatmeal. (Weitere Untersuchungen über die Gärung von Weizen- und Hafermehl.) M. Klotz.
109 A Motor Neurosis Probably Responsible for Rumination in Infants. (Zur Pathogenese der Rumination im Säuglingsalter.) F. Leist.

No. 7, pp. 325-390

110 Prevalence of Helminthiasis in Children. (Studien über die Häufigkeit der Darmparasiten, namentlich des Oxyuris vermicularis, bei Kindern.) A. Routsalainen (Helsingfors, Finland).
111 Action of Pilocarpin on the Blood. (Einwirkung von Pilocarpin auf das Blut, insbes. auf die Eosinophilen.) S. Aschenheim and Tomono.
112 Influenzal Pyothorax. (Fall von Pyothorax verursacht durch Micrococcus catarrhalis und Influenzabacillen.) M. Lateiner.
113 Tube-Casts in Urine. (Zur Pathologie der Zylindrurie.) J. Peiser.
114 Physiologic Fluctuations in Refracting Power and Viscosity of Infants' Blood. (Die physiologische Schwankungen der Refraktion und der Viskosität des Säuglingsblutes.) Reuss.
115 The Lime Metabolism in Rachitis. (Kalkstoffwechsel bei Rachitis.) A. Orgler.
116 •Participation of the Sympathetic Nervous System in the Pathology of Infants. (Anteilnahme des sympathetischen Nervensystems an den Erkrankungen des Säuglings.) N. Berend and E. Tezner.

116. **Participation of the Sympathetic Nervous System in the Pathology of Infants.**—Berend and Tezner applied to infants Loewy's test for abnormal excitability of the sympathetic system, namely, the pronounced mydriasis which follows instillation of a drop of a 1 per thousand solution of epinephrin; the normal dilatator pupillæ is not affected by epinephrin. Extensive experiments on infants showed that there is no reaction to the epinephrin in normal and in chronically ill infants, but pronounced mydriasis followed in all the severe toxic conditions. Recent research has shown that a deficit in lime enhances the sensitiveness of the sympathetic system to epinephrin. Cobliner has also recently stated that in severe toxicosis there are always large losses of lime from the blood. The assumption of abnormal irritability of the sympathetic system explains the pallor and meteorism, the livid tint and cold extremities and the congestion in brain and meninges in sick infants, the red tongue, blood-shot eyes and the regional limitation of these symptoms. With all this, the condition of the heart may be clinically quite good, showing that the disturbances are not signs of weakness of the heart but of mischief in the sympathetic system.

Münchener medizinische Wochenschrift

October 24, LVIII, No. 43, pp. 2257-2312

117 Serologic Research on Isolysins. (Untersuchungen über Isolyse.) E. Grafe and D. A. L. Graham. Continued.
118 Test Injection of Salvarsan in Dubious Cases. (Die Ziele einer ausreichenden Syphilisbehandlung und die provokatorische Salvarsaninjektion bei zweifelhafter Syphilis.) W. Gennerich.
119 Secretion in Infant's Breasts as Index of Capacity for Lacteal Secretion in Mother. (Die Brustdrüsensekretion des Kindes als Masstab der Stillfähigkeit der Mutter.) K. Basch.
120 Cerebral Influenza. (Ueber Hirninfluenza.) R. Stepp.
121 Sepsis After Chicken-Pox. (Fall von Streptokokkensepsis mit purulentem Oedem nach Varizellen.) K. Blühdorn.
122 Lessons from History of Hygiene. (Wege und Aufgaben der Geschichte der Hygiene.) K. Sudhoff.

Virchows Archiv, Berlin

October, CCVI, No. 1, pp. 1-160

123 Thyroid Changes in Purpura in the New-Born. (Eigentümliche herdförmige Degenerationen der Thyreoidea-Epithelien bei Purpura eines Neonatus.) C. A. Pettavel.
124 Diverticulum in Bladder. (Zur Kenntnis des echten Divertikels an der Seitenwand der Harnblase mit bes. Berücksichtigung seiner Entstehung.) S. Sugimura.
125 Destruction of Red Corpuscles in Spleen and Liver. (Zerstörung der roten Blutkörperchen in der Milz und der Leber unter normalen und pathologischen Verhältnissen.) J. Lintwarew.
126 Involvement of Ureters in Cystitis. (Beteiligung der Ureteren an den akuten Blasenentzündungen nebst Bemerkungen über ihre Fortleitung durch die Lymphbahnen der Ureteren.) S. Sugimura.
127 Histology of Hypophysis. (Zur Histologie der Neurohypophyse.) Stumpf.

128 Research on Water Elimination, Heat Regulation, etc., in Three Men Lacking Sweat and Sebaceous Glands. (Zur Physiologie und Pathologie des Wasserwechsels und der Wärmeregulation seitens des Hautorganes.) A. Loewy and W. Wechselmann.
129 Diverticulum in Duodenum. (Zur Untersuchung der Duodenaldivertikel.) G. Buschi.
130 Cancer in the Thymus. (Eine bösartige Thymusgeschwulst.) S. Rubaschow.

Wiener klinische Wochenschrift, Vienna

October 26, XXIV, No. 43, pp. 1487-1518

131 Chvostek's Sign and Neuropathies in the Young. (Fazialisphänomen und jugendliche Neuropathie.) K. Hochsinger.
132 Experimental Anaphylaxis to Inhaled Albumin. (Ueber Eiweissanaphylaxie von den Luftwegen aus.) B. Busson.
133 Puncture in Diagnosis of Intra-Abdominal Injuries. (Diagnostischer Wert der Punktion bei intraabdominellen Verletzungen.) E. G. Oser.

Zeitschrift für Geburtshülfe, Stuttgart

LXIX, No. 1, pp. 1-296. Last indexed October 21, p. 1414

134 •No Premonitory Pulse or Temperature Sign of Thrombosis and Embolism. (Es gibt kein prämonitorisches Puls- oder Temperatursymptom der Thrombose und Embolie.) H. Küster.
135 Lack of Sensibility of Abdominal Organs of Laboratory Animals. (Zur Frage der Sensibilität der Bauchorgane.) E. Engelhorn.
136 Cyst-Formation in Uterus with Adenomyometritis. (Cystenbildung und Synechie im Uterus bei Adenomyometritis.) R. T. Jaschke.
137 Origin of Amniotic Fluid. (Zwanzig Betrachtungen über die Herkunft des Fruchtwassers.) F. Ahlfeld.
138 Case of Fetal Membranes' Growing to Head. (Fall von Verwachsung der Eihäute mit dem kindlichen Kopf unter bes. Berücksichtigung der histologischen Verhältnisse der Verwachsungsstelle.) R. Roemer.
139 Determination of Age of Fetus. (Die Altersbestimmung des Fötus nach graphischer Methode.) W. Zangemeister.
140 •Eclampsia Without Convulsions and Without Loss of Consciousness. (Eclampsie ohne Krämpfe und ohne Bewusslosigkeit.) H. H. Schmid.
141 The Blood with Jaundice in the New-Born. (Zur Lehre des Icterus neonatorum.) F. Heimann.
142 Eclampsia as an Anaphylaxis Phenomenon. (Zur Klärung der Eklampsiefrage.) G. Lockemann and J. Thies.
143 Sugar Content of Blood in Pregnancy and Childbirth. (Der Blutzuckergehalt in der Schwangerschaft, in der Geburt, im Wochenbett und bei Eklampsie.) W. Benthin.
144 •Childbirth Between the Ages of 14 and 17. (Die Geburt in den Entwicklungsjahren.) O. Bondy.

134. No Warning Pulse or Temperature Sign of Thrombosis.—Küster deplores that the percentage of cases of postoperative thrombosis does not seem to have been reduced with the progress of surgery in other ways. His careful study of fifty-four cases of thrombosis and embolism in the gynecologic clinic at Breslau in the last five years has failed to show any characteristic premonitory symptoms on the part of the pulse and temperature. He summarizes his cases, and devotes twelve pages to tabulation of the various details, urging eager search for signs and symptoms that have escaped notice hitherto. At present, he declares, we have no means of knowing which of our patients are threatened with embolism until it develops.

140. Eclampsia without Convulsions or Loss of Consciousness.—Schmid reports what he says is the twenty-fourth case on record of eclampsia without convulsions, confirmed by necropsy. The diagnosis was made only after death, from the characteristic pathologic anatomic changes, in some of the cases. In twelve other fatal cases there was no necropsy and in twelve others the women recovered. The liver shows patches of typical hemorrhagic and anemic necrosis, the brain numerous hemorrhages in cortex, central ganglia or meninges. In one case hemorrhage in the fourth ventricle was the direct cause of death. Degenerative changes in kidney and heart are less constant. These necropsy findings may be very important from a medicolegal point of view in certain puzzling cases of eclampsia without convulsions.

144. Childbirth Under Eighteen.—At the Breslau maternity, 255 girls of 17 or under were delivered in the last eighteen years among a total of 13,000 deliveries. Five of the 255 girls bore a second child before their eighteenth year. Conditions in regard to mother and child seem to be at their best at the ages from 18 to 20. After 23 the conditions grow rapidly less favorable. Under 18, the experiences related confirm Mauriceau's dictum over 200 years ago, that "after the age of 15, girls are delivered more easily the younger they are." The deliveries in girls of 14 to 17 were by no means below the average in regard to favorable conditions. The average of non-viable infants (3.2 per cent.) was no greater than at the age of 18 to 20, and less than that between 21 and 23, and only half of the percentage between 24 and 27.

Zentralblatt für Chirurgie, Leipsic

October 26, XXXVIII, No. 43, pp. 1425-1448

145 Plastic Operation on Liver with Peritoneal Investment of Gall-Bladder After Cholecystectomy. (Zur Technik der Verlötung und Ueberbrückung.) P. Clairmont.

Zentralblatt für Gynäkologie, Leipsic

October 26, XXXV, No. 43, pp. 1481-1520

146 Self-Infection in Obstetrics and Gynecology. (Ueber Selbstinfektion.) G. Winter.
147 Care of Stump of Umbilical Cord. (Abnabelung und Nabelschnurversorgung.) F. Ahlfeld.
148 Outline for Eclampsia Statistics. (Zur Eklampsiestatistik.) E. Rossa.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 26, XXXII, No. 129, pp. 1363-1370

149 Technic for Determination of Fats and Lipoids in the Blood. (Sopra un metodo practico per la determinazione dei grassi e dei lipoidi del sangue nell'uomo.) G. Garin.

October 29, No. 130, pp. 1371-1386

150 Pneumonic Plague. (Intorno al perche delle epidemie di polmonite pestosa.) E. Bertarelli.
151 Hernia of the Bladder. (Contributo allo studio clinico delle ernie vescicali.) M. Augusto.

Policlinico, Rome

October 22, XVIII, No. 43, pp. 1353-1384

152 Conditions Favoring Proliferation of Cholera Germs in Water, etc. (Le scarse esigenze nutritive del vibrione colerico.) M. Pergola.

October, Medical Section No. 10, pp. 429-476

153 Metabolic Findings in Case of Kala-Azar. (Prime ricerche sul ricambio materiale in un caso di Kala-Azar.) F. Scordo.
154 Sterility of the Blood in Pellagra. (Ricerche ematologiche e batteriologiche sulla pellagra.) D. C. Bianchi and B. Agazzi.
155 The Functioning of the Stomach in Pellagra. (Ricerche sulla funzionalita gastrica nei pellagrosi.) P. Masserini.

Riforma Medica, Naples

October 23, XXVII, No. 43, pp. 1177-1204

156 Resisting Powers of the Leukocytes in Leukemia and Leukopenia. (La resistenza dei leucociti nella leucemia e nella leucopenia.) G. Lucibelli.

Ugeskrift for Læger, Copenhagen

October 26, LXXIII, No. 43, pp. 1579-1616

157 •Neurolysis for Sciatica. (Neurolysis ved Ischias.) A. Pers.
158 Public Sanatoriums for Nervous Disease. (Om Folkesanatorier for Nervesvage.) K. Malling.

157. Neurolysis for Sciatica.—Pers is convinced that relics of perineuritis are responsible for persisting sciatica, and his success in treatment based on this assumption testifies to the correctness of his view. He has applied his method of neurolysis in seventy cases and in fifty-eight recently examined after a considerable interval, forty-seven patients were found to have been permanently cured as also two others after a second neurolysis. Other Scandinavian physicians have applied the method also in twenty cases; of the fifteen patients recently reexamined twelve were found cured and one improved. Pers' experience has shown that the method succeeds in uncomplicated, typical sciatica without too much atrophy, developing primarily in connection with pain in the lumbar region. The prognosis with neurolysis is good under these conditions, and he applies it with confidence when the ordinary measures have failed to cure. If the sciatica, however, is associated with pain in adjoining regions, especially along the crural nerve and upward in the lumbar region, the trouble evidently involves the plexus or the nerve itself, and no relief can be expected from neurolysis. He aims to free the sciatic nerve from all adhesions that may have developed as the result of a perineuritis. For this he incises along the back of the femur, incising from the lower margin of the gluteus maximus down to and below the middle of the thigh. The sciatic nerve is then sought between the vastus externus and the biceps, and with the finger it is detached from its bed, working always from below upward, with extreme care not to tear any of the small branches of the nerve. The nerve sheath is thus released from adhesions from the popliteal space below to the sciatic foramen above, if necessary making a supplementary incision in the lower margin of the gluteus maximus. Extreme care is necessary to avoid mistaking a branch of the nerve for an adhesion. After the sheath of

the nerve has thus been freed along the entire stretch involved, the incision is sutured, first making sure that hemostasis is complete. A postoperative hematoma is a highly undesirable and unnecessary complication; he had to contend with it in two of his earlier cases. Baracz' method is different; he works his finger through the gluteus maximus fibers down to the nerve where it enters the notch and breaks any adhesions binding it down to the bone. Pers has found this method useful in a few cases in which the sciatica persisted after his neurolysis, the combination of the two technics finally curing the patient. The Baracz technic alone is not sufficient and as the Pers technic is usually all that is needed, he reserves the combined method for the cases refractory to the latter alone. Pers has observed recurrence in a few cases even after the combined method. In four of his nine failures (out of the total fifty-eight cases) the sciatica was evidently only a part of a plexus affection; in one other case the pain returned after a year of freedom, and there is evidence that the nerve itself is involved. In the five other cases the failure of the operation to relieve seems inexplicable as everything suggested a simple sciatica of peripheral origin. It is possible that the sciatica may have been a sympathetic or reflex affection from inflammation elsewhere, possibly on the other side. The value of examination with the Roentgen rays with a dubious diagnosis is instructively shown in some of his cases in which the failure of years of treatment of the "sciatica" was explained by discovery of an old fracture or arthritis of the lowest lumbar vertebra; in another case a sarcoma in the ischium was thus detected. In still another case a man of 46 had had pain in the sciatic region for eighteen months, rebellious to systematic medical measures; then Roentgen examination revealed an unsuspected lesion in the sacro-iliac articulation on the side of the supposed sciatica which proved to be a pus pocket containing pneumococci. The patient was permanently cured of his "sciatica" from the moment of the evacuation of the pus.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

TEXT-BOOK OF MEAT HYGIENE. With Special Consideration of Ante-Mortem and Post-Mortem Inspection of Food-Producing Animals. By Richard Edelmann, Ph.D., Medical Counsellor, Royal State Veterinarian of Saxony. Authorized Translation Revised for America by John R. Mohler, A.M., V.M.D., Chief of Pathological Division, United States Bureau of Animal Industry, and Adolph Eichhorn, D.V.S., Senior Bacteriologist, Pathological Division, United States Bureau of Animal Industry. Cloth. Price, $4.50 net. Pp. 392, with 157 illustrations. Philadelphia: Lea & Febiger, 1911.

PAIN. Its Causation and Diagnostic Significance in Internal Diseases. By Dr. Rudolph Schmidt, Physician to the Royal Empress Elizabeth Hospital, Vienna. Translated and Edited from the Second Enlarged and Revised German Edition by Karl M. Vogel, M.D., Assistant Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, and Hans Zinsser, A.M., M.D., Professor of Bacteriology, Leland Stanford Junior University. Second Edition. Cloth. Price, $3. Pp. 358. Philadelphia: J. B. Lippincott Co., 1911.

DISEASES OF THE DIGESTIVE CANAL (ESOPHAGUS, STOMACH, INTESTINES). By Dr. Paul Cohnheim, Specialist in Diseases of the Stomach and Intestines in Berlin. From the Second German Edition. Edited and Translated by Dudley Fulton, M.D., Assistant Professor of Principles and Practice of Medicine, University of California College of Medicine, Los Angeles Department. Second Edition. Cloth. Price, $4. Pp. 383, with 431 illustrations. Philadelphia: J. B. Lippincott Co., 1911.

THE BACILLUS OF LONG LIFE. A Manual of the Preparation and Souring of Milk for Dietary Purposes, Together with a Historical Account of the Use of Fermented Milks, from the Earliest Times to the Present Day, and Their Wonderful Effect in the Prolonging of Human Existence. By Loudon M. Douglas, F.R.S.E. Cloth. Price, $1.50. Pp. 160, with 62 illustrations. New York: G. P. Putnam's Sons, 1911.

DIE GONORRHOE DES MANNES. Ihre Pathologie und Therapie. Ein Leitfaden für Aerzte und Studirende. Von Dr. Wilhelm Karo. Paper. Price, 2.80 marks. Pp. 100. Berlin: Julius Springer, 1911.

DIAGNOSE UND FEHLDIAGNOSE VON GEHIRNERKRANKUNGEN AUS DER PAPILLA NERVI OPTICI. Von Dr. Fr. Salzer, München. Paper. Price, 1.50 marks. Pp. 18, with illustrations. Munich: J. F. Lehmann, 1911.

DISEASES OF INFANCY AND CHILDHOOD. Their Dietetic, Hygienic and Medical Treatment. A Text-Book Designed for Practitioners and Students in Medicine. By Louis Fischer, M.D., Attending Physician to the Willard Parker and Riverside Hospitals of New York. Fourth Edition. Cloth. Price, $6.50 net. Pp. 980, with 308 illustrations. Philadelphia: F. A. Davis Co., 1911.

CLINICAL DIAGNOSIS. A Text-Book of Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers and Practitioners of Medicine. By Charles Phillips Emerson, A.B., M.D., Late Resident Physician, The Johns Hopkins University. Third Edition. Cloth. Price, $5. Pp. 724, with 126 illustrations. Philadelphia: J. B. Lippincott Co., 1911.

OM BEDRÄGLIGA LÄKEMEDEL OCH LAKEMETODER JÄMTE REDOGÖRELSE FÖR NÅGRA I VÄRT LAND UTBJUNDA LÄKEMEDEL. Av Torsten Thunberg, Med. D:R, Professor N:R 1 av Småskrifter Utgivna av Byran för Upplysning om Läkemedelsannonser, Upsala. Fourth Edition. Paper. Price, 50 öre. Pp. 126. Upsala: Gleerupska Univ.-Bokhandeln 1 Lund, 1911.

AN ARMY OFFICER ON LEAVE IN JAPAN. Including a Sketch of Manila and Environment, Philippine Insurrection of 1896-7, Dewey's Battle of Manila Bay and a Description of Formosa. By L. Mervin Maus, Colonel, United States Army. Cloth. Price, $1.50 net. Pp. 413, with illustrations. Chicago: A. C. McClurg & Co., 1911.

HANDBUCH DER INNEREN MEDIZIN. Herausgegeben von Dr. L. Mohr, Direktor der Medizin Poliklinik zu Halle (Saale) und Dr. R. Staehelin, Direktor der Medizin Klinik zu Basel. Erster Band. Infektionskrankheiten. Paper. Price, 26 marks. Pp. 1077, with 288 illustrations. Berlin: Julius Springer, 1911.

UEBER NEUROREZIDIVE NACH SALVARSAN- UND NACH QUECKSILBERBEHANDLUNG. Ein Beitrag zur Lehre von der Frühsyphilis des Gehirns. Von Dr. J. Benario. Mit einem Vorwort von Wirkl. Geheimen Rat P. Ehrlich. Paper. Price, 6 marks. Pp. 195, with illustrations. Munich: J. F. Lehmann, 1911.

THE MECHANISM OF THE HEART-BEAT. With Especial Reference to Its Clinical Pathology. By Thomas Lewis, M.D., M.R.C.P., D.Sc., Lecturer in Cardiac Pathology, University College Hospital Medical School, London. Cloth. Price, $7 net. Pp. 295, with 214 illustrations. New York: Paul B. Hoeber, 1911.

FORTY-FIFTH ANNUAL REPORT OF COLUMBIA HOSPITAL FOR WOMEN AND LYING-IN ASYLUM. For the Fiscal Year Ending June 30, 1911. Twenty-Fifth Street and Pennsylvania Avenue N.-W., Washington, D. C. Paper. Pp. 46. Washington: Government Printing Office, 1911.

MEMORIA DEL CURSO DE 1909 A 1910 Y ANUARIO DEL DE 1910 A 1911 DE SU DISTRITO UNIVERSITARIO QUE PUBLICA LA SECRETARIA GENERAL UNIVERSIDAD CENTRAL DE ESPAÑA. Paper. Pp. 56. Madrid: Imprenta Colonial (Estrada Hermanos.), 1911.

PHYSIKALISCHE HEILKUNDE. Von Dr. Fritz Frankenhauser. Leitfäden der praktischen Medizin. Von Dr. Ph. Bockenheimer, Berlin. Band 4. Paper. Price, 7.50 marks. Pp. 323, with 77 illustrations. Leipzig: Werner Klinkhardt, 1911.

THE MECHANICAL FACTORS OF DIGESTION. By Walter B. Cannon, A.M., M.D., George Hugginson Professor of Physiology, Harvard University. Cloth. Price, $3 net. Pp. 227, with 37 illustrations. New York: Longmans, Green & Co., 1911.

WRITING THESES FOR M.B. AND M.D. DEGREES. By H. D. Rolleston, M.D., F.R.C.P., Senior Physician, St. George's Hospital, Chelsea. Cloth. Price, 1 shilling net. Pp. 27. London: John Bale, Sons & Danielsson, 1911.

REPORT OF THE SURGEON-GENERAL, U. S. ARMY, TO THE SECRETARY OF WAR, 1911. Annual Reports, War Department, Fiscal Year Ended June 30, 1911. Paper. Pp. 253. Washington: Government Printing Office, 1911.

WALSH'S PHYSICIAN'S HANDY LEDGER. A Companion to Walsh's Physician's Combined Call-Book and Tablet. Half Leather. Price, $3.50. Pp. 600. Washington, D. C.: Ralph Walsh, M.D., 1804 H Street N.-W.

ANNUAL REPORT FOR 1910. CHURCH HOME FOR AGED PERSONS OF THE CITY OF CHICAGO. F. F. Ainsworth, Treasurer, 378-388 Wabash Avenue. Home Buildings, 4323-4329 Ellis Avenue. Paper. Pp. 47. 1911.

TWENTY-THIRD ANNUAL REPORT OF ST. ELIZABETH'S HOSPITAL. Conducted by the Poor Handmaids of Jesus Christ, Chicago, Ill. For the Year Ending Dec. 31, 1911. Paper. Pp. 48, with illustrations.

ANNUAL REPORT OF THE NATIONAL ASSOCIATION FOR THE STUDY AND EDUCATION OF EXCEPTIONAL CHILDREN. 1911. Registered Office, "Watchung Crest," Plainfield, N. J. Paper. Pp. 42.

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